IES Indoor Report
Photometric Filename:HCP-238400-5K.IES

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Indoor Luminaire Photometric Data

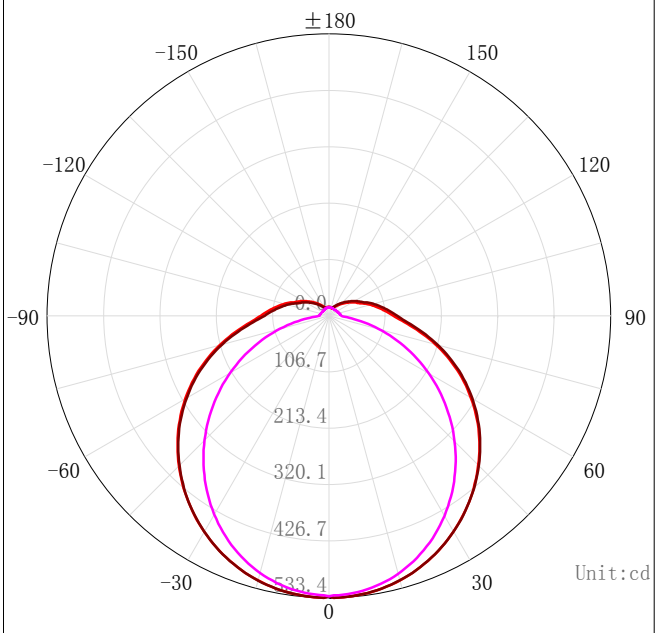
Description Information

Luminary Name: HCP-238400-5K(20W)		Lum. Catelog:	Test ID: 001
Lamp Name:		Lamp Catelog:	Test Date: 2019/11/28
Manufacture:		Shld.Ang(°):	Test Machine:GON-2000
Test Lab: Volnic IES		Frequency(Hz):	Lamp CCT(K): Ra:
Lum.Size(W*L*H):0.110m*1.250m*0.000m		Lum.Area(m2):0.138	Lum.W(kg): 1.000
Test System: C, γ	Test Step: C=30.0 γ=1.0	Temp.(℃): 25	Humidity(%): 50.0

Character Parameter

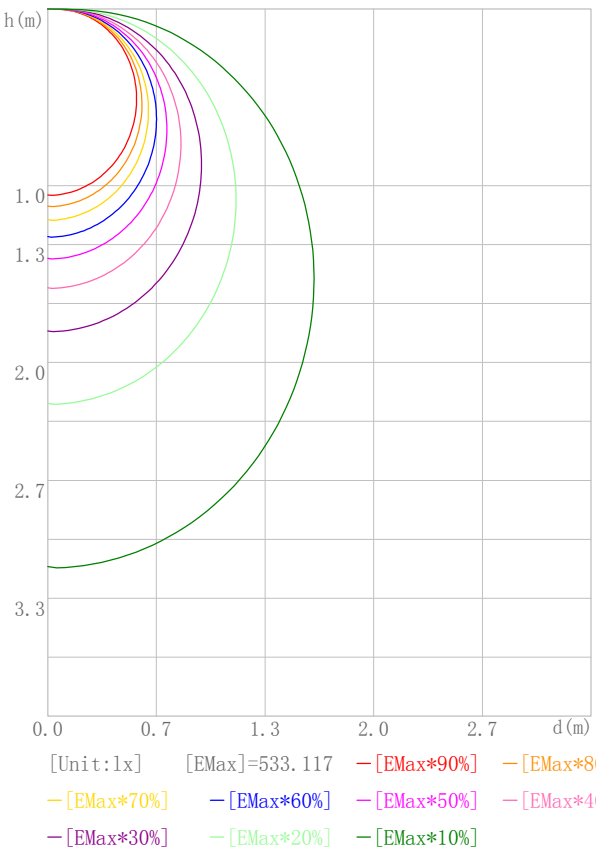
Lamp Speciality Parameter	Luminaire Speciality Parameter	
Rated Flux(lm): 1981.260	Luminary Flux(lm): 1981.265	Field Angle(10%Imax): 239.0(°)
Rated Power(W):	Luminary Efficiency: 100.00%	Down Lumens&Percent: 1743.723lm 88.01%
Rated Voltage(V):	Luminary EER(lm/W): 104.995	Up Lumens&Percent: 237.542lm 11.99%
Tested Power(W): 18.870	Max.Candela(cd): 533.427	S/MH: C0_a180=1.322 C90_270=1.222
Lamps' Inside: 1	Max Cand@Ang.(°): C=180.0 γ=1.0	CIE Type: General Diffuse
Tested Electrics(V,A,pf):240.0,0.097,0.805	Beam Angle(50%Imax): 133.7(°)	ErP Φuse(120°): 1228.497lm
Lamp Size(W*L*H):0.110m*1.250m*0.000m	Left=-67.1°,Right=66.6°	IRF(%): 106.620

C Plane Distribution Diagram



C Plane	[50%MaxAng.]	[10%MaxAng.]
C180.0_360.0:	133.7	239.0
C0.0_180.0 :	133.7	239.0
C90.0_270.0 :	107.9	162.4

C0 Space ISO Illuminance Curve



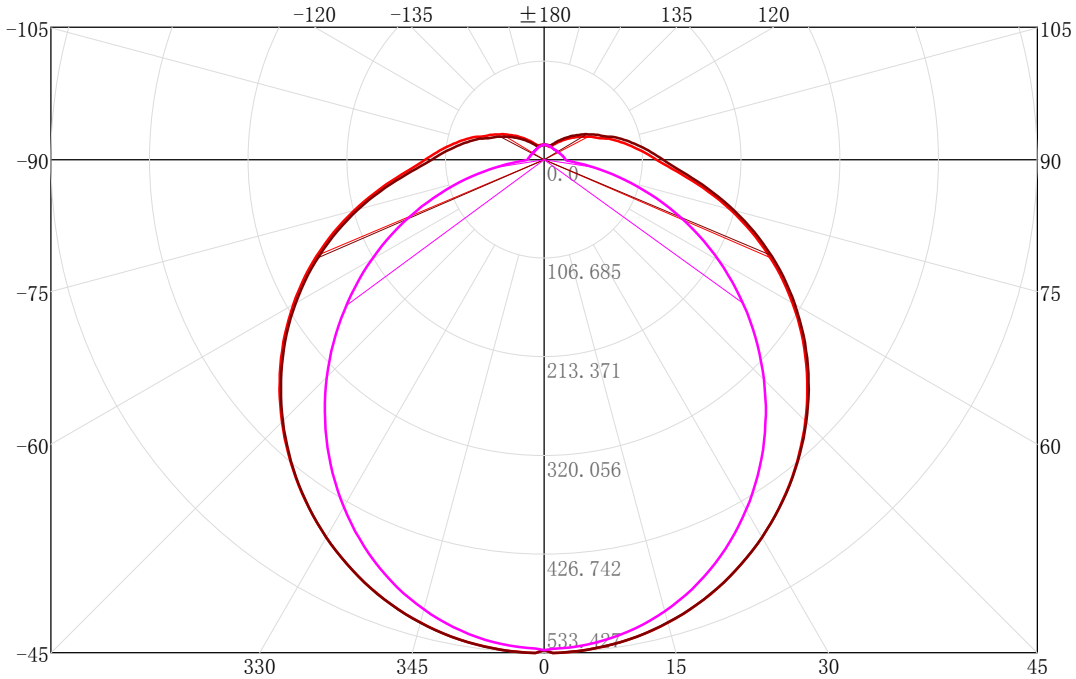
[Unit:lx] [EMax]=533.117 —[EMax*90%] —[EMax*80%] —[EMax*70%] —[EMax*60%] —[EMax*50%] —[EMax*40%] —[EMax*30%] —[EMax*20%] —[EMax*10%]

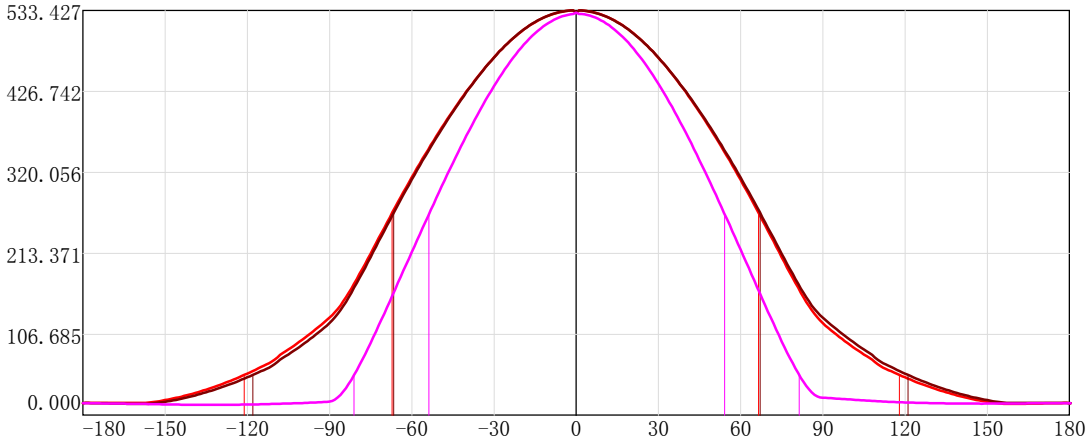
HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

2D Plane Light Intensity Distribution Curve

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

C Plane Distribution Diagram





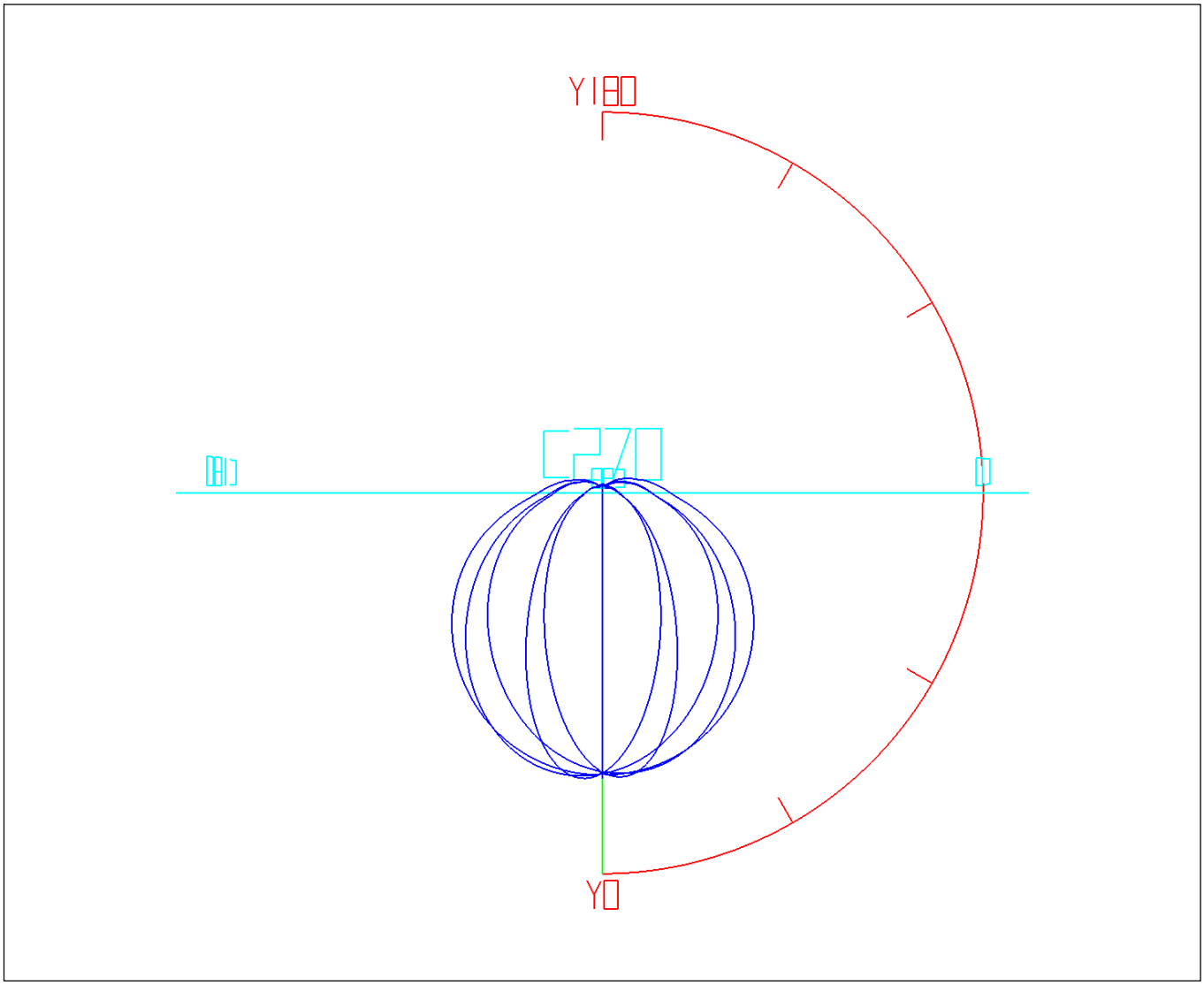
C Plane	[50%MaxAng.]	[10%MaxAng.]	Unit:cd
C180.0_360.0:	133.7	239.0	
C0.0_180.0 :	133.7	239.0	
C90.0_270.0 :	107.9	162.4	

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

3D Light Intensity Distribution Modal

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

3D Light Intensity Distribution Modal



Curves: 3D Model Fixture Vert. HUD Hori. HUD
View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

IES Indoor Report
Photometric Filename:HCP-238400-5K.IES

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Zonal Flux Tabulation

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp	Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-1.0	0.51	0.51	0.03	0.03	47.0-48.0	28.41	907.29	1.43	45.79
1.0-2.0	1.52	2.03	0.08	0.10	48.0-49.0	28.33	935.62	1.43	47.22
2.0-3.0	2.53	4.56	0.13	0.23	49.0-50.0	28.21	963.83	1.42	48.65
3.0-4.0	3.54	8.10	0.18	0.41	50.0-51.0	28.07	991.90	1.42	50.06
4.0-5.0	4.54	12.64	0.23	0.64	51.0-52.0	27.90	1019.80	1.41	51.47
5.0-6.0	5.54	18.18	0.28	0.92	52.0-53.0	27.70	1047.50	1.40	52.87
6.0-7.0	6.53	24.71	0.33	1.25	53.0-54.0	27.47	1074.97	1.39	54.26
7.0-8.0	7.51	32.22	0.38	1.63	54.0-55.0	27.21	1102.18	1.37	55.63
8.0-9.0	8.48	40.71	0.43	2.05	55.0-56.0	26.93	1129.11	1.36	56.99
9.0-10.0	9.44	50.15	0.48	2.53	56.0-57.0	26.62	1155.73	1.34	58.33
10.0-11.0	10.39	60.54	0.52	3.06	57.0-58.0	26.28	1182.01	1.33	59.66
11.0-12.0	11.33	71.87	0.57	3.63	58.0-59.0	25.92	1207.93	1.31	60.97
12.0-13.0	12.25	84.11	0.62	4.25	59.0-60.0	25.54	1233.47	1.29	62.26
13.0-14.0	13.15	97.26	0.66	4.91	60.0-61.0	25.13	1258.59	1.27	63.52
14.0-15.0	14.03	111.30	0.71	5.62	61.0-62.0	24.69	1283.29	1.25	64.77
15.0-16.0	14.90	126.20	0.75	6.37	62.0-63.0	24.24	1307.53	1.22	65.99
16.0-17.0	15.75	141.95	0.79	7.16	63.0-64.0	23.76	1331.29	1.20	67.19
17.0-18.0	16.58	158.53	0.84	8.00	64.0-65.0	23.26	1354.55	1.17	68.37
18.0-19.0	17.39	175.91	0.88	8.88	65.0-66.0	22.74	1377.29	1.15	69.52
19.0-20.0	18.17	194.08	0.92	9.80	66.0-67.0	22.21	1399.50	1.12	70.64
20.0-21.0	18.93	213.01	0.96	10.75	67.0-68.0	21.65	1421.15	1.09	71.73
21.0-22.0	19.66	232.67	0.99	11.74	68.0-69.0	21.08	1442.23	1.06	72.79
22.0-23.0	20.37	253.04	1.03	12.77	69.0-70.0	20.49	1462.72	1.03	73.83
23.0-24.0	21.05	274.09	1.06	13.83	70.0-71.0	19.89	1482.62	1.00	74.83
24.0-25.0	21.71	295.80	1.10	14.93	71.0-72.0	19.28	1501.90	0.97	75.81
25.0-26.0	22.34	318.14	1.13	16.06	72.0-73.0	18.66	1520.56	0.94	76.75
26.0-27.0	22.94	341.08	1.16	17.22	73.0-74.0	18.02	1538.58	0.91	77.66
27.0-28.0	23.51	364.59	1.19	18.40	74.0-75.0	17.38	1555.96	0.88	78.53
28.0-29.0	24.05	388.65	1.21	19.62	75.0-76.0	16.74	1572.70	0.84	79.38
29.0-30.0	24.56	413.21	1.24	20.86	76.0-77.0	16.09	1588.79	0.81	80.19
30.0-31.0	25.05	438.26	1.26	22.12	77.0-78.0	15.44	1604.23	0.78	80.97
31.0-32.0	25.50	463.76	1.29	23.41	78.0-79.0	14.79	1619.02	0.75	81.72
32.0-33.0	25.92	489.68	1.31	24.72	79.0-80.0	14.15	1633.16	0.71	82.43
33.0-34.0	26.31	515.98	1.33	26.04	80.0-81.0	13.52	1646.68	0.68	83.11
34.0-35.0	26.66	542.65	1.35	27.39	81.0-82.0	12.90	1659.57	0.65	83.76
35.0-36.0	26.99	569.64	1.36	28.75	82.0-83.0	12.29	1671.86	0.62	84.38
36.0-37.0	27.28	596.92	1.38	30.13	83.0-84.0	11.71	1683.58	0.59	84.97
37.0-38.0	27.54	624.47	1.39	31.52	84.0-85.0	11.16	1694.74	0.56	85.54
38.0-39.0	27.77	652.24	1.40	32.92	85.0-86.0	10.64	1705.38	0.54	86.08
39.0-40.0	27.97	680.21	1.41	34.33	86.0-87.0	10.17	1715.54	0.51	86.59
40.0-41.0	28.14	708.35	1.42	35.75	87.0-88.0	9.74	1725.28	0.49	87.08
41.0-42.0	28.27	736.62	1.43	37.18	88.0-89.0	9.37	1734.66	0.47	87.55
42.0-43.0	28.37	765.00	1.43	38.61	89.0-90.0	9.07	1743.72	0.46	88.01
43.0-44.0	28.44	793.44	1.44	40.05	90.0-91.0	8.80	1752.52	0.44	88.45
44.0-45.0	28.48	821.92	1.44	41.48	91.0-92.0	8.54	1761.06	0.43	88.89
45.0-46.0	28.49	850.41	1.44	42.92	92.0-93.0	8.30	1769.36	0.42	89.30
46.0-47.0	28.47	878.88	1.44	44.36	93.0-94.0	8.06	1777.42	0.41	89.71

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

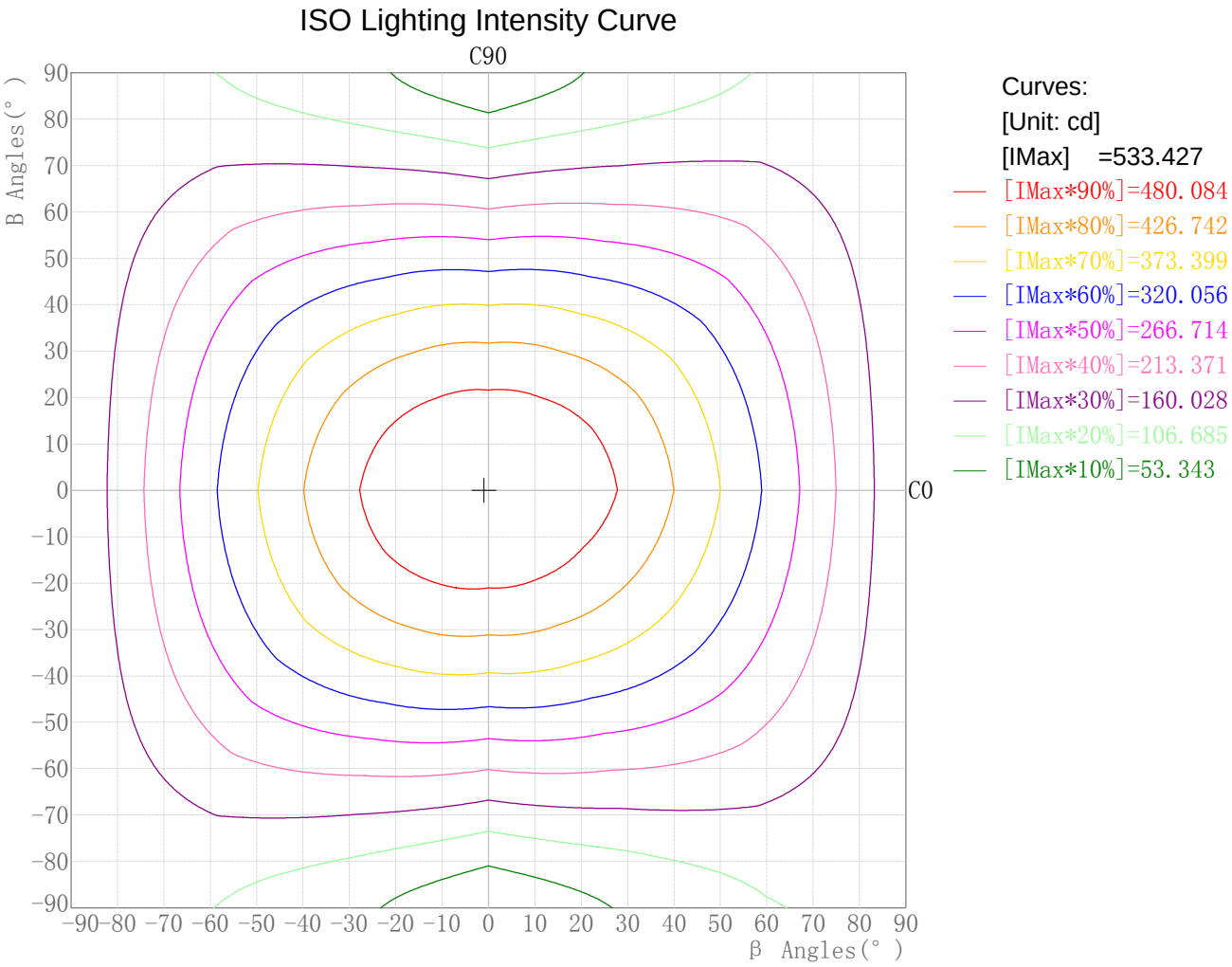
Zonal Flux Tabulation - (Cont.)

Zone(γ)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
94.0-95.0	7.82	1785.24	0.39	90.11
95.0-96.0	7.59	1792.83	0.38	90.49
96.0-97.0	7.36	1800.18	0.37	90.86
97.0-98.0	7.13	1807.31	0.36	91.22
98.0-99.0	6.91	1814.22	0.35	91.57
99.0-100.0	6.69	1820.91	0.34	91.91
100.0-101.0	6.48	1827.39	0.33	92.23
101.0-102.0	6.27	1833.66	0.32	92.55
102.0-103.0	6.06	1839.72	0.31	92.86
103.0-104.0	5.87	1845.59	0.30	93.15
104.0-105.0	5.67	1851.26	0.29	93.44
105.0-106.0	5.47	1856.73	0.28	93.71
106.0-107.0	5.25	1861.98	0.27	93.98
107.0-108.0	5.03	1867.01	0.25	94.23
108.0-109.0	4.82	1871.83	0.24	94.48
109.0-110.0	4.62	1876.46	0.23	94.71
110.0-111.0	4.45	1880.90	0.22	94.93
111.0-112.0	4.29	1885.19	0.22	95.15
112.0-113.0	4.13	1889.32	0.21	95.36
113.0-114.0	3.98	1893.29	0.20	95.56
114.0-115.0	3.83	1897.12	0.19	95.75
115.0-116.0	3.69	1900.81	0.19	95.94
116.0-117.0	3.55	1904.36	0.18	96.12
117.0-118.0	3.43	1907.79	0.17	96.29
118.0-119.0	3.31	1911.09	0.17	96.46
119.0-120.0	3.18	1914.28	0.16	96.62
120.0-121.0	3.07	1917.35	0.15	96.77
121.0-122.0	2.95	1920.30	0.15	96.92
122.0-123.0	2.84	1923.13	0.14	97.07
123.0-124.0	2.73	1925.86	0.14	97.20
124.0-125.0	2.62	1928.48	0.13	97.34
125.0-126.0	2.52	1931.00	0.13	97.46
126.0-127.0	2.41	1933.41	0.12	97.58
127.0-128.0	2.32	1935.73	0.12	97.70
128.0-129.0	2.22	1937.95	0.11	97.81
129.0-130.0	2.13	1940.08	0.11	97.92
130.0-131.0	2.04	1942.12	0.10	98.02
131.0-132.0	1.95	1944.07	0.10	98.12
132.0-133.0	1.87	1945.95	0.09	98.22
133.0-134.0	1.80	1947.74	0.09	98.31
134.0-135.0	1.72	1949.47	0.09	98.40
135.0-136.0	1.65	1951.11	0.08	98.48
136.0-137.0	1.58	1952.69	0.08	98.56
137.0-138.0	1.51	1954.21	0.08	98.63
138.0-139.0	1.45	1955.65	0.07	98.71
139.0-140.0	1.39	1957.04	0.07	98.78
140.0-141.0	1.33	1958.37	0.07	98.84
141.0-142.0	1.27	1959.64	0.06	98.91
142.0-143.0	1.22	1960.86	0.06	98.97
143.0-144.0	1.17	1962.03	0.06	99.03
144.0-145.0	1.12	1963.15	0.06	99.09
145.0-146.0	1.07	1964.22	0.05	99.14
146.0-147.0	1.03	1965.25	0.05	99.19
147.0-148.0	0.98	1966.24	0.05	99.24
148.0-149.0	0.94	1967.18	0.05	99.29
149.0-150.0	0.90	1968.08	0.05	99.33
150.0-151.0	0.87	1968.95	0.04	99.38
151.0-152.0	0.83	1969.78	0.04	99.42
152.0-153.0	0.79	1970.57	0.04	99.46
153.0-154.0	0.76	1971.33	0.04	99.50
154.0-155.0	0.73	1972.07	0.04	99.54
155.0-156.0	0.70	1972.77	0.04	99.57
156.0-157.0	0.67	1973.44	0.03	99.61
157.0-158.0	0.65	1974.09	0.03	99.64
158.0-159.0	0.62	1974.71	0.03	99.67
159.0-160.0	0.59	1975.30	0.03	99.70
160.0-161.0	0.57	1975.87	0.03	99.73
161.0-162.0	0.54	1976.41	0.03	99.76
162.0-163.0	0.51	1976.92	0.03	99.78
163.0-164.0	0.49	1977.41	0.02	99.81
164.0-165.0	0.46	1977.87	0.02	99.83
165.0-166.0	0.43	1978.30	0.02	99.85
166.0-167.0	0.40	1978.70	0.02	99.87
167.0-168.0	0.37	1979.08	0.02	99.89
168.0-169.0	0.35	1979.42	0.02	99.91
169.0-170.0	0.32	1979.74	0.02	99.92
170.0-171.0	0.29	1980.03	0.01	99.94
171.0-172.0	0.26	1980.29	0.01	99.95
172.0-173.0	0.23	1980.51	0.01	99.96
173.0-174.0	0.20	1980.71	0.01	99.97
174.0-175.0	0.17	1980.88	0.01	99.98
175.0-176.0	0.14	1981.02	0.01	99.99
176.0-177.0	0.11	1981.13	0.01	99.99
177.0-178.0	0.08	1981.20	0.00	100.00
178.0-179.0	0.05	1981.25	0.00	100.00
179.0-180.0	0.02	1981.26	0.00	100.00

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Rectangle ISO Lighting Intensity Diagram

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28



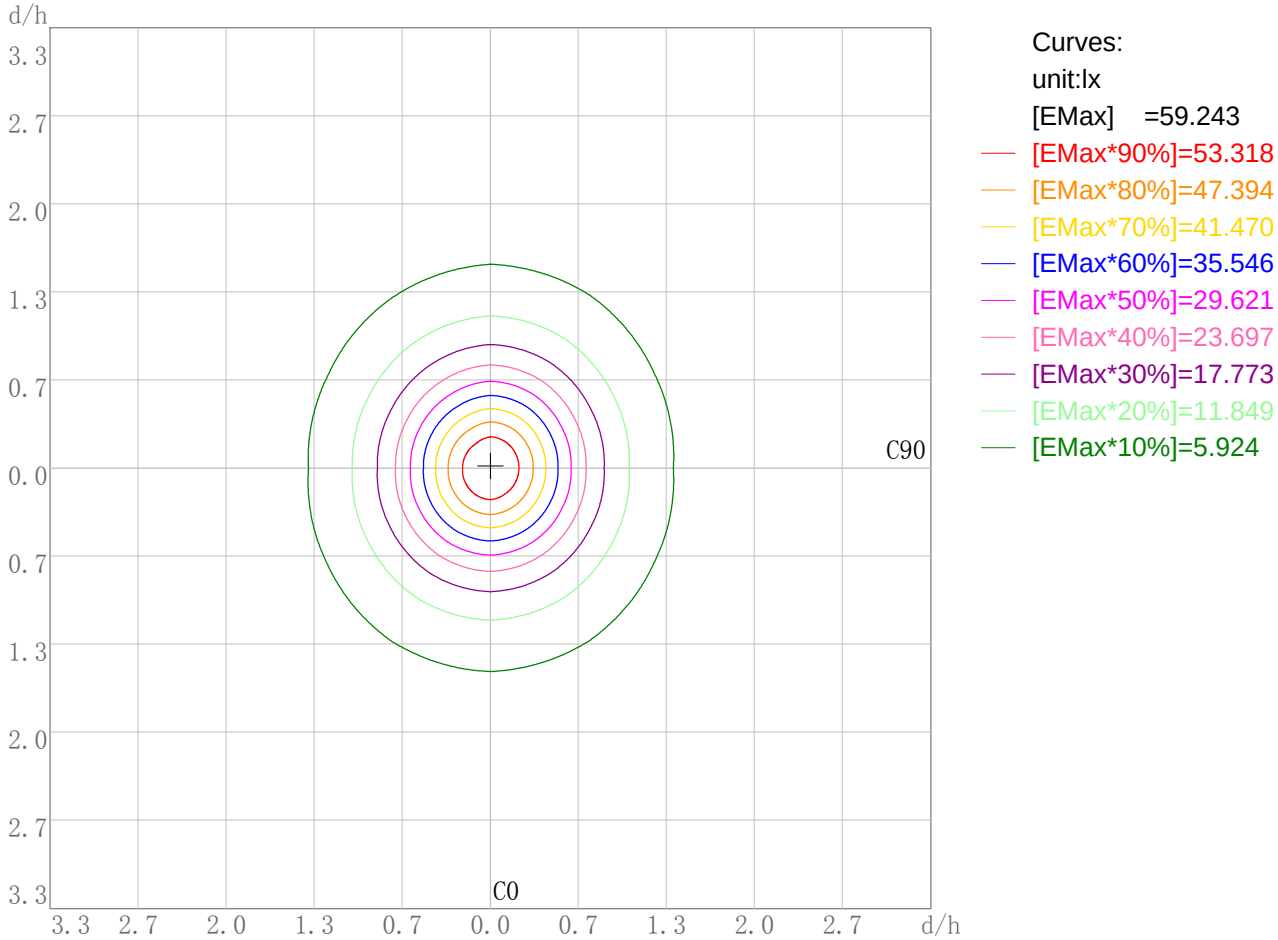
Maximum Light Intensity(cd): 533.43
Maximum Cand.@Angle: H=-1.0°,V=0.0°

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Plane ISO-Illuminance Diagram

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

Plane ISO-Illuminance Curve



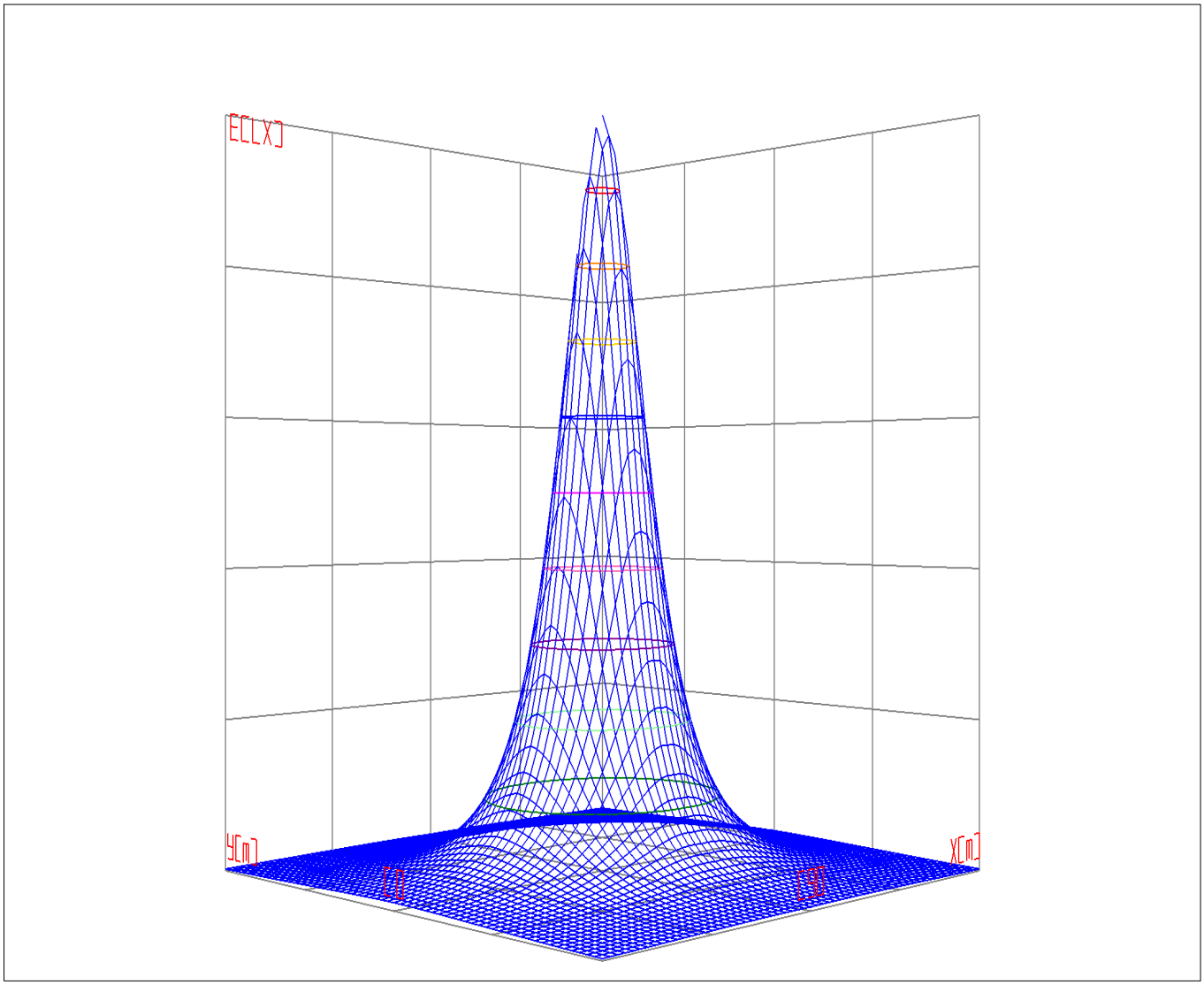
Working Plane Luminaire Mounting Height(m): 3.00
Working Plane Maximum Illuminance(lx): 59.24
Working Plane Maximum Illuminance Position(d/h):H0.0 V-0.0

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

3D Plane ISO Illuminance Diagram

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

3D Plane Illuminance Modal



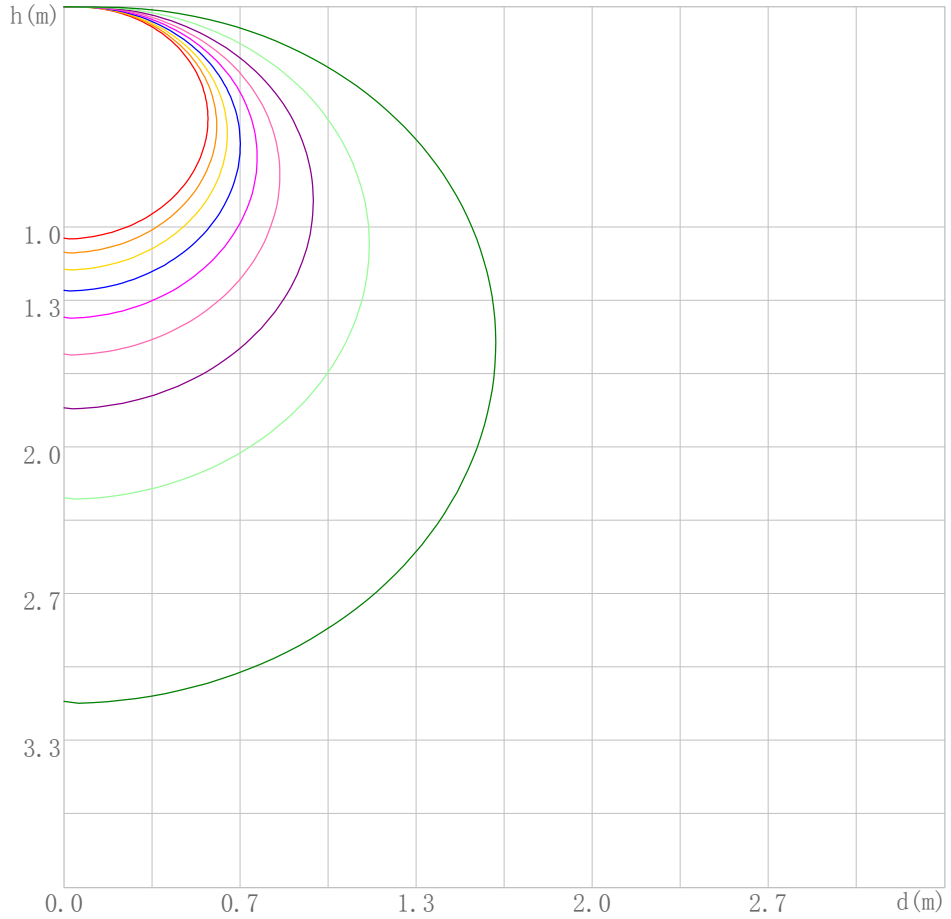
Curves: 3D Model 90% 80% 70% 60% 50% 40% 30% 20% 10%
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Space ISO Illuminance Diagram

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

Space ISO Illuminance Curve



Curves:
[Unit: lx]
[EMax] =533.117
[EMax*90%]=479.806
[EMax*80%]=426.494
[EMax*70%]=373.182
[EMax*60%]=319.870
[EMax*50%]=266.559
[EMax*40%]=213.247
[EMax*30%]=159.935
[EMax*20%]=106.623
[EMax*10%]=53.312

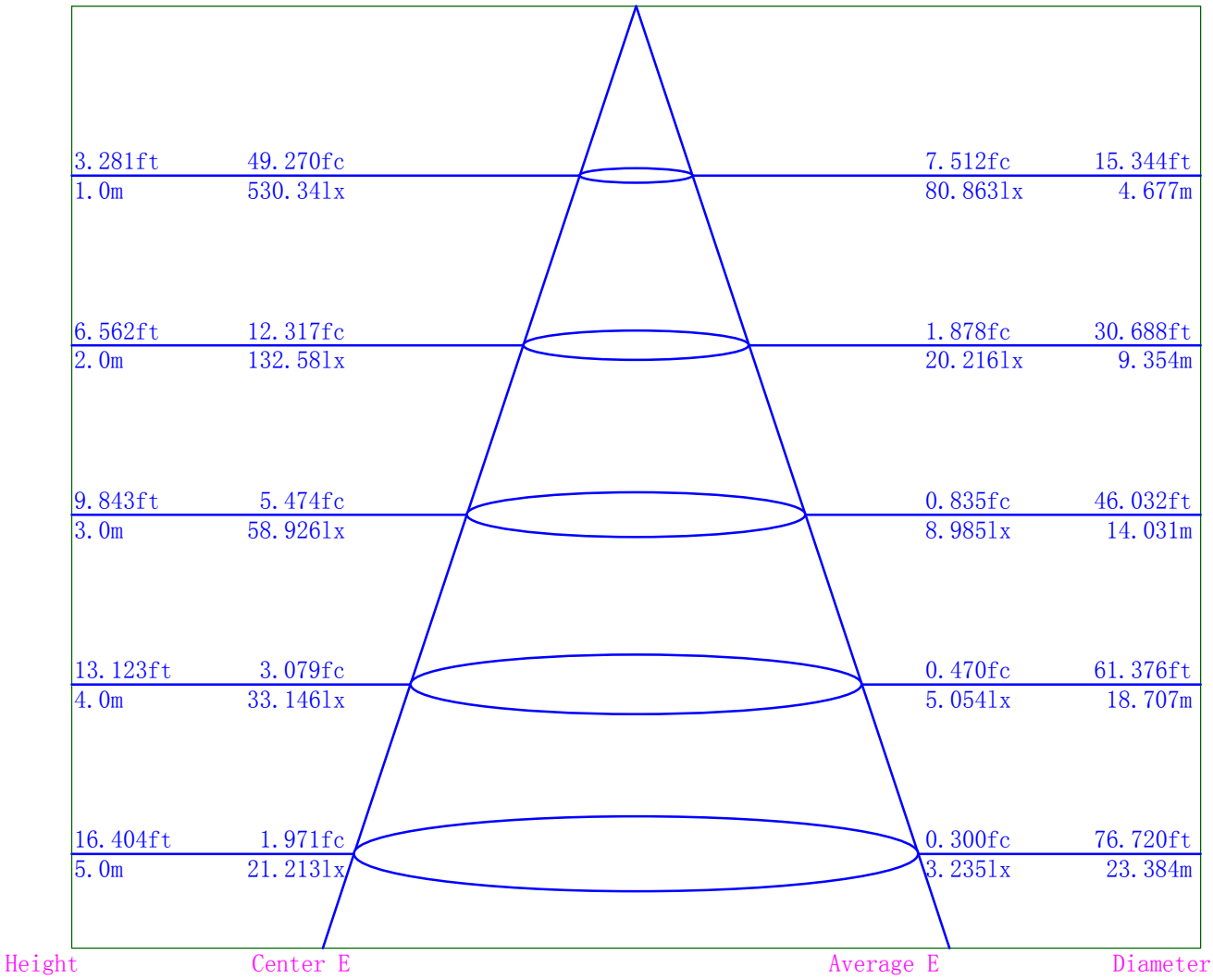
Space Plane Maximum Illuminance and @Angle:533.12lx,1.0deg
Plane Maximum Lighting Intensity and @Angle:533.361cd,0eg

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Illuminance-Distance Diagram

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

Illuminance-Distance Curve



Beam Angle:133.7

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Indoor Luminance Limiting Curves

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28

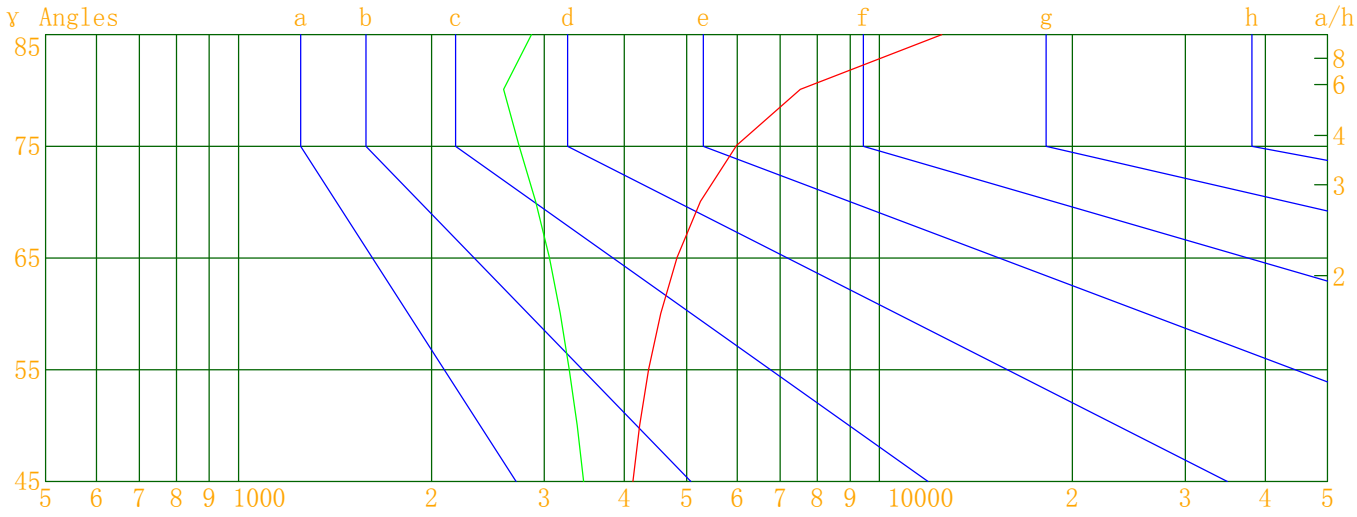
Glare Grade Table

GI	Quality	Using Illuminace							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E	a				2000	1000	500	<=300
			b	c	d	e	f	g	h

Luminance Table

Gama(deg)	45	50	55	60	65	70	75	80	85
C0	4124	4225	4364	4558	4835	5256	5987	7524	12514
C90	3457	3374	3281	3176	3054	2909	2740	2593	2864

Luminance Limiting Curve



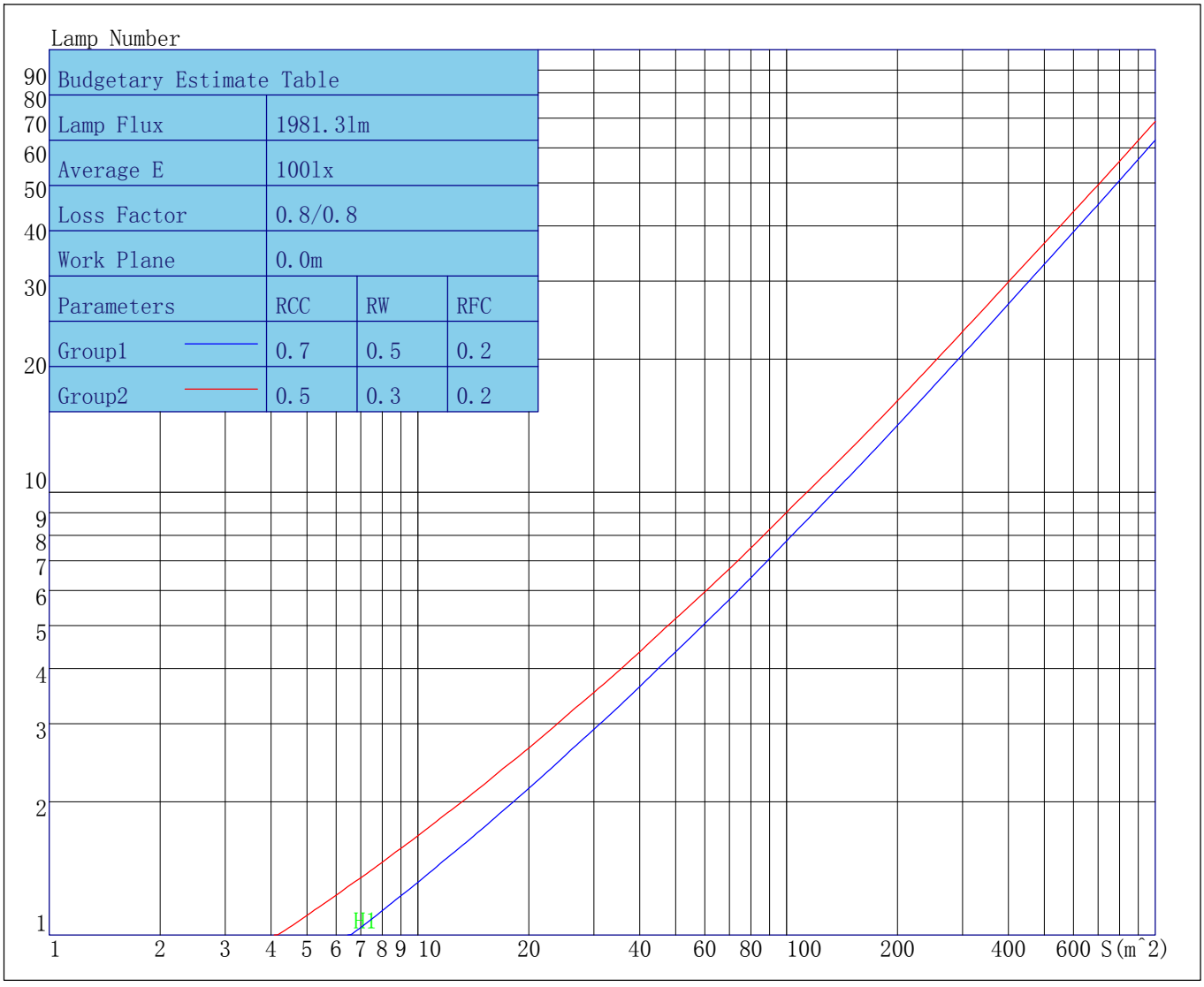
Luminous Size: Length(m)=1.250 Width(m)=0.110 Height(m)=0.000 Area(m^2)=0.137500
Luminous Type: Without Luminous Side
Luminous Curves: C0-C180 Color: ——— C90-C270 Color: ———

IES Indoor Report
Photometric Filename:HCP-238400-5K.IES

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Indoor Budgetary Estimate Table

Lum.Name: HCP-238400-5K(20W)	Lum.Catelog:	Test ID: 001
Lamp Name:	Lamp Catelog:	Test Lab: Volnic IES
Manufacture:	Test Machine:GON-2000	Test Date: 2019/11/28



Parameters1: Rhocc = 0.7 Rhow = 0.5 Rhofc = 0.2 LLF = 0.8
Parameters2: Rhocc = 0.5 Rhow = 0.3 Rhofc = 0.2 LLF = 0.8
Average Illuminance(lx): 100 Cavity Height: H1(m) = 2

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Indoor Coefficient of Utilization Table

Lum.Name: HCP-238400-5K(20W)	**Lum.Catelog:**	**Test ID:** 001
Lamp Name:	**Lamp Catelog:**	**Test Lab:** Volnic IES
Manufacture:	**Test Machine:GON-2000**	**Test Date:** 2019/11/28

Coefficients of Utilization - Zonal Cavity Method																		
Coef.	Effective Floor Cavity Reflectance RFC=0.20																	
RhoCC(%)	80				70				50			30			10			0
RhoW(%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	Coefficient of Utilization(%)																	
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	91	91	91	88
1	104	98	93	89	100	95	90	86	88	85	81	82	80	77	77	75	72	69
2	94	85	77	71	90	82	75	69	76	71	66	71	66	62	66	63	59	56
3	85	74	65	58	82	71	63	57	67	60	54	62	57	52	58	53	49	47
4	78	65	56	49	74	63	54	48	59	52	46	55	49	44	52	46	42	39
5	71	58	49	42	68	56	47	41	53	45	39	49	43	38	46	41	36	34
6	66	52	43	36	63	50	42	35	47	40	34	44	38	33	42	36	32	29
7	61	47	38	32	58	46	37	31	43	36	30	40	34	29	38	32	28	26
8	57	43	34	28	54	42	33	28	39	32	27	37	31	26	35	29	25	23
9	53	39	31	25	51	38	30	25	36	29	24	34	28	23	32	27	23	21
10	49	36	28	23	48	35	28	22	33	26	22	32	25	21	30	24	20	19

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Unified Glare Rating Table

Lum.Name: HCP-238400-5K(20W)	**Lum.Catelog:**	**Test ID:** 001
Lamp Name:	**Lamp Catelog:**	**Test Lab:** Volnic IES
Manufacture:	**Test Machine:GON-2000**	**Test Date:** 2019/11/28

Unified Glare Rating Table

Ceiling RCC		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
Wall RW		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
Floor RFC		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room Size		Vewed crosswise					Vewed endwise				
X=2H	Y=2H	16.8	18.2	17.3	18.7	19.3	15.4	16.9	16.0	17.4	18.0
	Y=3H	19.1	20.5	19.7	21.0	21.6	17.1	18.4	17.6	18.9	19.6
	Y=4H	20.4	21.6	20.9	22.2	22.8	17.8	19.0	18.3	19.6	20.2
	Y=6H	21.7	22.8	22.3	23.4	24.1	18.3	19.5	18.9	20.1	20.7
	Y=8H	22.4	23.5	23.0	24.1	24.8	18.5	19.7	19.1	20.3	20.9
	Y=12H	23.2	24.2	23.8	24.8	25.5	18.7	19.8	19.3	20.4	21.1
X=4H	Y=2H	17.5	18.7	18.0	19.3	19.9	16.5	17.7	17.1	18.3	19.0
	Y=3H	20.1	21.2	20.7	21.8	22.4	18.4	19.5	19.0	20.1	20.7
	Y=4H	21.5	22.5	22.1	23.1	23.8	19.2	20.2	19.9	20.8	21.5
	Y=6H	23.0	23.9	23.6	24.5	25.2	20.0	20.9	20.6	21.5	22.2
	Y=8H	23.8	24.6	24.4	25.3	26.0	20.3	21.1	20.9	21.7	22.5
	Y=12H	24.7	25.5	25.4	26.1	26.9	20.6	21.3	21.2	22.0	22.7
X=8H	Y=4H	21.9	22.7	22.5	23.3	24.1	20.0	20.9	20.7	21.5	22.2
	Y=6H	23.6	24.3	24.3	25.0	25.9	21.1	21.8	21.7	22.4	23.3
	Y=8H	24.6	25.2	25.3	25.9	26.7	21.5	22.2	22.2	22.8	23.6
	Y=12H	25.8	26.3	26.5	27.0	27.8	22.0	22.5	22.6	23.2	24.0
X=12H	Y=4H	21.9	22.7	22.6	23.3	24.1	20.3	21.0	20.9	21.7	22.4
	Y=6H	23.8	24.4	24.4	25.0	25.8	21.4	22.1	22.1	22.7	23.5
	Y=8H	24.8	25.4	25.5	26.1	26.9	22.0	22.6	22.7	23.3	24.1
Variations with the objerver position at spacings											
S=1.0H		0.1/-0.1					0.4/-0.4				
S=1.5H		0.2/-0.2					0.6/-0.6				
S=2.0H		0.1/-0.1					0.7/-0.8				
Reduced UGR Table:											
Nordic Standard Table:		BK0					BK0				
Correction Value		5.1					4.0				

o the CIE Pub.117,data has been corrected,refers to the lamp's lumens 8.2flm.

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Candela Tabulation

V/H	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0	C300.0	C330.0
Y 0.0	530.34	530.34	530.34	530.34	530.34	530.34	530.34	530.34	530.34	530.34	530.34	530.34
Y 1.0	533.36	531.16	529.88	528.92	527.93	527.14	533.43	531.11	529.75	528.77	527.71	526.79
Y 2.0	533.24	530.99	529.54	528.66	527.70	527.04	533.28	530.92	529.41	528.26	527.44	526.44
Y 3.0	532.94	530.54	529.03	528.19	527.37	526.73	532.97	530.54	529.00	527.71	526.83	525.97
Y 4.0	532.50	530.00	528.32	527.40	526.75	526.40	532.51	530.04	528.38	526.83	525.98	525.28
Y 5.0	531.88	529.34	527.40	526.49	526.01	525.78	531.91	529.29	527.40	525.81	525.01	524.49
Y 6.0	531.12	528.50	526.44	525.35	524.89	525.05	531.17	528.56	526.38	524.47	523.84	523.57
Y 7.0	530.24	527.64	525.03	523.94	523.65	524.15	530.30	527.53	525.05	523.07	522.42	522.40
Y 8.0	529.21	526.34	523.62	522.37	522.20	523.12	529.38	526.44	523.48	521.29	520.79	521.12
Y 9.0	528.05	525.08	521.99	520.51	520.69	521.91	528.16	525.04	521.88	519.28	519.03	519.63
Y 10.0	526.81	523.62	520.11	518.49	518.98	520.52	526.87	523.56	519.96	517.13	517.15	518.02
Y 11.0	525.31	521.96	518.11	516.19	516.92	519.04	525.51	521.83	517.90	514.79	514.98	516.20
Y 12.0	523.78	520.15	515.88	513.84	514.90	517.47	523.88	520.05	515.66	512.20	512.57	514.32
Y 13.0	521.91	518.19	513.46	511.23	512.36	515.61	522.24	518.17	513.24	509.48	510.00	512.21
Y 14.0	519.99	516.15	510.74	508.29	509.77	513.52	520.31	516.06	510.57	506.48	507.33	509.94
Y 15.0	517.98	513.88	507.98	505.24	507.05	511.35	518.23	513.75	507.91	503.29	504.35	507.56
Y 16.0	515.82	511.41	505.01	501.96	504.20	509.03	516.02	511.39	504.93	499.94	501.33	504.94
Y 17.0	513.48	508.92	501.96	498.49	501.05	506.54	513.76	508.74	501.72	496.33	497.96	502.20
Y 18.0	511.11	506.24	498.62	494.88	497.77	503.93	511.27	506.08	498.38	492.64	494.53	499.40
Y 19.0	508.37	503.41	495.07	491.15	494.36	501.24	508.67	503.19	494.88	488.60	490.92	496.40
Y 20.0	505.66	500.38	491.43	487.02	490.74	498.19	505.85	500.16	491.17	484.49	487.15	493.24
Y 21.0	502.74	497.13	487.54	482.82	486.88	495.10	502.97	496.96	487.35	480.21	483.21	489.87
Y 22.0	499.77	493.83	483.53	478.36	482.95	491.84	499.97	493.70	483.28	475.65	479.04	486.34
Y 23.0	496.67	490.37	479.36	473.71	478.79	488.40	496.80	490.15	479.15	470.96	474.65	482.69
Y 24.0	493.50	486.81	475.02	468.99	474.53	484.81	493.50	486.42	474.78	466.06	470.19	478.92
Y 25.0	490.04	483.08	470.66	464.10	470.04	481.20	490.14	482.78	470.28	461.04	465.70	475.11
Y 26.0	486.52	479.13	465.88	458.98	465.48	477.40	486.49	479.00	465.65	455.77	460.88	471.13
Y 27.0	482.95	475.13	461.12	453.66	460.77	473.33	482.86	475.01	460.87	450.48	455.99	467.13
Y 28.0	479.27	471.12	456.38	448.24	455.81	469.26	479.25	470.83	455.88	444.89	450.87	462.75
Y 29.0	475.48	466.92	451.20	442.67	450.71	464.99	475.23	466.53	450.70	439.20	445.60	458.34
Y 30.0	471.47	462.62	445.95	436.95	445.53	460.74	471.18	462.17	445.58	433.42	440.33	453.95
Y 31.0	467.36	458.27	440.61	431.19	440.08	456.25	467.12	457.77	440.14	427.58	434.78	449.34
Y 32.0	463.25	453.69	435.09	425.10	434.59	451.78	462.95	453.15	434.80	421.56	429.30	444.73
Y 33.0	458.92	449.02	429.53	418.86	429.07	447.17	458.63	448.63	429.15	415.29	423.53	440.01
Y 34.0	454.62	444.25	423.76	412.59	423.29	442.39	454.18	443.72	423.45	408.96	417.66	435.12
Y 35.0	450.13	439.41	417.90	406.31	417.50	437.55	449.71	438.84	417.56	402.43	411.68	430.01
Y 36.0	445.55	434.47	412.05	399.76	411.56	432.58	445.15	433.98	411.48	395.85	405.55	425.07
Y 37.0	440.91	429.43	405.97	393.16	405.39	427.59	440.43	428.93	405.37	389.15	399.40	419.88
Y 38.0	436.23	424.39	399.76	386.27	399.23	422.35	435.60	423.73	399.24	382.32	393.12	414.64
Y 39.0	431.44	419.11	393.52	379.37	392.96	417.08	430.81	418.47	393.05	375.51	386.79	409.31
Y 40.0	426.61	413.81	387.17	372.39	386.69	411.78	425.80	413.15	386.78	368.52	380.36	403.92
Y 41.0	421.59	408.35	380.91	365.40	380.29	406.47	420.60	407.68	380.27	361.37	373.73	398.40
Y 42.0	416.64	402.95	374.36	358.39	373.75	400.98	415.45	402.22	373.77	354.24	367.12	392.74
Y 43.0	411.52	397.50	367.81	350.96	367.19	395.48	410.25	396.71	367.21	346.99	360.37	387.19
Y 44.0	406.27	391.81	361.16	343.50	360.47	389.71	404.96	391.04	360.62	339.64	353.76	381.57
Y 45.0	401.01	386.05	354.48	336.09	353.70	383.88	399.64	385.24	353.80	332.21	346.95	375.79
Y 46.0	395.56	380.24	347.65	328.58	346.91	378.10	394.20	379.57	347.16	324.69	340.09	369.97

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Candela Tabulation - (Cont.)

V/H	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0	C300.0	C330.0
Y 47.0	390.17	374.48	340.97	321.08	340.13	372.23	388.55	373.70	340.18	317.09	333.14	363.99
Y 48.0	384.63	368.64	334.15	313.52	333.18	366.29	382.88	367.80	333.23	309.53	326.17	358.12
Y 49.0	379.10	362.74	327.09	305.92	326.22	360.24	377.19	361.77	326.29	301.86	319.18	352.06
Y 50.0	373.44	356.69	320.05	298.23	319.17	354.16	371.59	355.85	319.38	294.15	312.15	346.00
Y 51.0	367.77	350.58	313.05	290.40	312.11	347.95	365.77	349.66	312.41	286.47	305.10	339.94
Y 52.0	361.95	344.47	305.99	282.43	305.00	341.90	359.91	343.49	305.26	278.49	298.00	333.77
Y 53.0	356.17	338.35	298.99	274.60	297.93	335.64	353.90	337.23	298.11	270.65	290.74	327.54
Y 54.0	350.20	332.09	291.88	266.71	290.83	329.40	347.82	331.08	291.05	262.76	283.57	321.31
Y 55.0	344.20	325.91	284.80	258.75	283.66	323.14	341.71	324.71	283.94	254.82	276.44	315.02
Y 56.0	338.06	319.51	277.60	250.72	276.38	316.74	335.58	318.47	276.81	246.86	269.23	308.68
Y 57.0	332.01	313.08	270.38	242.54	269.15	310.26	329.31	312.03	269.69	238.85	261.98	302.25
Y 58.0	325.79	306.71	263.17	234.45	262.02	303.67	323.11	305.54	262.48	230.83	254.72	295.88
Y 59.0	319.61	300.34	256.02	226.40	254.87	297.17	316.77	299.11	255.25	222.74	247.40	289.37
Y 60.0	313.36	293.79	248.84	218.38	247.54	290.69	310.24	292.55	247.89	214.73	240.20	282.83
Y 61.0	306.95	287.27	241.62	210.21	240.33	284.19	303.70	285.99	240.72	206.66	232.98	276.34
Y 62.0	300.44	280.71	234.35	201.96	233.01	277.56	297.31	279.51	233.57	198.70	225.83	269.89
Y 63.0	294.06	274.01	227.14	193.77	225.74	270.79	290.72	272.84	226.40	190.57	218.60	263.25
Y 64.0	287.52	267.33	219.94	185.64	218.57	264.11	284.04	265.99	219.20	182.56	211.26	256.56
Y 65.0	280.96	260.61	212.91	177.45	211.31	257.49	277.25	259.28	211.95	174.46	204.04	249.90
Y 66.0	274.31	254.07	205.65	169.29	204.11	250.77	270.52	252.66	204.79	166.26	196.73	243.29
Y 67.0	267.61	247.27	198.39	161.26	196.93	243.94	263.76	245.81	197.63	158.32	189.55	236.63
Y 68.0	260.71	240.46	191.25	152.99	189.73	237.08	257.00	239.15	190.69	150.27	182.54	230.04
Y 69.0	253.99	233.71	184.21	144.83	182.60	230.33	250.05	232.51	183.60	142.26	175.46	223.26
Y 70.0	247.16	226.93	177.15	136.80	175.62	223.55	243.22	225.57	176.55	134.26	168.44	216.51
Y 71.0	240.46	220.18	170.29	128.94	168.65	216.71	236.28	218.71	169.53	126.33	161.38	209.82
Y 72.0	233.57	213.42	163.38	121.01	161.85	209.99	229.19	211.93	162.52	118.39	154.47	203.12
Y 73.0	226.71	206.71	156.40	113.09	155.06	203.28	222.33	204.98	155.60	110.54	147.49	196.46
Y 74.0	219.81	199.90	149.64	105.28	148.09	196.49	215.34	198.26	148.76	102.84	140.72	189.87
Y 75.0	213.05	193.12	142.92	97.49	141.45	189.63	208.41	191.56	142.15	95.34	134.07	183.25
Y 76.0	206.24	186.56	136.31	90.00	134.90	183.04	201.50	184.76	135.54	87.81	127.52	176.73
Y 77.0	199.57	179.96	129.86	82.69	128.47	176.53	194.56	178.08	128.97	80.41	120.97	170.17
Y 78.0	192.92	173.50	123.47	75.55	122.03	170.05	187.75	171.45	122.53	73.22	114.50	163.76
Y 79.0	186.25	167.11	117.14	68.64	115.78	163.65	180.93	164.97	116.21	66.26	108.27	157.36
Y 80.0	179.65	160.62	111.07	61.91	109.68	157.24	174.42	158.61	110.13	59.59	102.17	151.18
Y 81.0	173.32	154.50	105.29	55.58	103.81	151.06	168.04	152.37	104.07	53.08	96.39	145.27
Y 82.0	167.07	148.43	99.53	49.48	98.14	145.15	161.54	146.15	98.30	46.92	90.74	139.28
Y 83.0	161.23	142.68	94.12	43.90	92.79	139.39	155.27	140.23	92.68	41.14	85.25	133.53
Y 84.0	155.46	136.99	88.99	38.89	87.79	133.87	149.36	134.64	87.46	35.85	80.12	128.08
Y 85.0	149.97	131.84	84.15	34.32	82.89	128.68	143.80	129.12	82.42	31.11	75.21	122.85
Y 86.0	144.77	126.88	79.75	30.41	78.49	123.69	138.63	123.98	77.49	26.83	70.87	118.01
Y 87.0	140.20	122.32	75.81	27.15	74.55	119.10	133.71	119.23	73.29	23.41	66.72	113.62
Y 88.0	135.96	118.21	72.36	24.94	71.24	115.02	129.22	114.93	69.46	20.66	63.12	109.59
Y 89.0	132.10	114.64	69.51	23.70	68.34	111.60	125.14	111.18	66.26	18.97	60.09	106.11
Y 90.0	128.72	111.44	67.00	23.37	66.06	108.39	121.51	107.79	63.49	18.07	57.65	102.98
Y 91.0	125.53	108.53	64.79	23.04	63.84	105.44	118.26	104.85	61.06	17.80	55.38	100.12
Y 92.0	122.28	105.55	62.55	22.83	61.61	102.57	115.14	101.89	58.89	17.57	53.35	97.53
Y 93.0	119.33	102.66	60.37	22.62	59.61	99.85	112.28	99.04	56.82	17.43	51.35	94.87

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Candela Tabulation - (Cont.)

V/H	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0	C300.0	C330.0
Y 94.0	116.28	99.92	58.35	22.34	57.63	97.24	109.25	96.34	54.77	17.17	49.44	92.12
Y 95.0	113.45	97.30	56.43	22.06	55.66	94.56	106.28	93.51	52.80	16.98	47.57	89.50
Y 96.0	110.59	94.59	54.51	21.73	53.93	91.86	103.38	90.92	50.87	16.82	45.79	87.08
Y 97.0	107.71	91.99	52.55	21.56	51.94	89.30	100.61	88.44	49.03	16.72	44.06	84.51
Y 98.0	104.81	89.36	50.70	21.38	50.18	86.86	97.90	85.85	47.30	16.52	42.48	82.20
Y 99.0	102.06	86.83	48.95	21.06	48.60	84.35	95.24	83.30	45.64	16.36	40.88	79.86
Y 100.0	99.40	84.37	47.37	20.92	46.92	81.95	92.64	80.88	43.87	16.21	39.39	77.54
Y 101.0	96.79	81.96	45.72	20.59	45.28	79.69	89.96	78.53	42.38	16.09	37.90	75.23
Y 102.0	94.15	79.61	44.15	20.41	43.79	77.39	87.44	76.21	40.83	15.96	36.51	73.08
Y 103.0	91.63	77.31	42.74	20.21	42.40	75.16	84.99	74.02	39.46	15.84	35.15	70.92
Y 104.0	89.18	75.02	41.23	19.95	41.05	73.00	82.66	71.90	38.05	15.79	33.88	68.69
Y 105.0	86.69	72.78	39.97	19.69	39.68	70.94	80.32	69.70	36.70	15.63	32.74	66.55
Y 106.0	84.36	70.17	38.62	19.48	38.39	68.24	78.05	67.57	35.37	15.56	31.51	63.85
Y 107.0	82.12	67.03	37.07	19.29	36.86	65.10	75.76	64.58	34.01	15.42	30.38	60.52
Y 108.0	79.52	64.24	35.65	19.08	35.43	62.33	73.48	61.51	32.65	15.32	29.13	58.02
Y 109.0	76.35	61.93	34.38	18.85	34.21	60.12	70.57	59.19	31.42	15.24	28.01	55.74
Y 110.0	73.26	59.99	33.24	18.70	33.04	58.31	67.53	57.07	30.23	15.21	27.02	53.90
Y 111.0	70.87	58.40	32.04	18.49	31.89	56.88	65.04	55.44	29.04	15.00	25.98	52.70
Y 112.0	68.71	56.77	30.88	18.33	30.68	55.26	62.97	54.00	27.84	14.96	24.88	51.17
Y 113.0	66.88	54.91	29.75	18.07	29.71	53.45	61.17	52.25	26.87	14.90	24.06	49.50
Y 114.0	65.18	53.10	28.89	17.90	28.81	51.75	59.38	50.43	26.04	14.73	23.26	47.84
Y 115.0	63.62	51.27	28.00	17.80	27.99	49.99	58.03	48.79	25.15	14.65	22.50	46.04
Y 116.0	61.90	49.49	27.12	17.59	27.26	48.31	56.61	47.03	24.41	14.54	21.71	44.55
Y 117.0	60.08	47.95	26.37	17.40	26.50	46.84	54.91	45.41	23.70	14.47	21.08	43.29
Y 118.0	58.36	46.79	25.66	17.34	25.85	45.80	53.15	44.21	23.03	14.38	20.46	42.09
Y 119.0	56.66	45.42	25.03	17.13	25.23	44.42	51.54	43.13	22.44	14.25	19.91	40.80
Y 120.0	55.02	44.01	24.36	17.05	24.52	43.15	49.97	41.79	21.77	14.17	19.41	39.62
Y 121.0	53.57	42.65	23.67	16.89	23.93	41.86	48.53	40.49	21.18	14.22	18.89	38.26
Y 122.0	51.95	41.32	22.94	16.75	23.27	40.62	47.09	39.22	20.61	14.18	18.32	37.06
Y 123.0	50.23	40.06	22.35	16.82	22.69	39.36	45.56	38.00	20.01	14.11	17.90	35.92
Y 124.0	48.62	38.85	21.76	16.63	22.24	38.19	44.03	36.73	19.49	14.03	17.37	34.74
Y 125.0	47.13	37.60	21.23	16.53	21.68	36.91	42.60	35.67	19.09	14.07	16.91	33.62
Y 126.0	45.60	36.38	20.65	16.42	21.01	35.82	41.28	34.54	18.49	14.01	16.65	32.60
Y 127.0	44.18	35.24	20.05	16.40	20.49	34.71	39.94	33.32	18.07	13.96	16.15	31.51
Y 128.0	42.84	34.15	19.52	16.30	19.93	33.64	38.63	32.35	17.55	14.00	15.65	30.51
Y 129.0	41.47	33.03	18.97	16.15	19.23	32.59	37.33	31.33	17.17	14.00	15.19	29.47
Y 130.0	40.26	32.04	18.56	16.13	18.84	31.61	36.10	30.38	16.59	14.04	14.98	28.47
Y 131.0	38.84	30.93	18.22	15.84	18.43	30.68	34.82	29.36	16.22	13.91	14.63	27.52
Y 132.0	37.53	29.92	17.77	15.86	18.04	29.67	33.69	28.41	15.85	14.00	14.32	26.66
Y 133.0	36.26	28.92	17.46	15.87	17.73	28.74	32.64	27.47	15.54	13.98	14.09	25.76
Y 134.0	35.03	27.99	17.24	15.84	17.48	27.85	31.58	26.53	15.26	13.90	14.03	24.97
Y 135.0	33.83	27.05	16.93	15.77	17.17	26.96	30.39	25.74	14.93	13.93	13.84	24.07
Y 136.0	32.70	26.10	16.77	15.63	16.87	25.98	29.38	24.94	14.74	13.92	13.70	23.28
Y 137.0	31.62	25.35	16.51	15.62	16.63	25.33	28.32	24.07	14.52	14.01	13.69	22.43
Y 138.0	30.50	24.40	16.36	15.57	16.44	24.49	27.24	23.33	14.26	13.91	13.55	21.79
Y 139.0	29.36	23.71	16.23	15.58	16.28	23.66	26.30	22.55	14.10	13.95	13.52	21.00
Y 140.0	28.41	22.86	16.18	15.55	16.12	22.97	25.37	21.79	14.04	13.98	13.53	20.29

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Candela Tabulation - (Cont.)

V/H	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0	C300.0	C330.0
γ 141.0	27.39	22.13	16.07	15.44	15.99	22.21	24.54	21.05	13.90	14.02	13.60	19.71
γ 142.0	26.42	21.44	15.99	15.54	15.91	21.52	23.58	20.36	13.78	14.04	13.62	19.00
γ 143.0	25.53	20.78	15.99	15.51	15.95	20.85	22.70	19.74	13.88	14.09	13.72	18.42
γ 144.0	24.64	20.17	15.90	15.48	15.93	20.27	21.92	19.15	13.88	14.07	13.69	17.85
γ 145.0	23.74	19.49	15.89	15.41	15.90	19.69	21.13	18.59	13.98	14.18	13.73	17.33
γ 146.0	23.00	19.01	15.86	15.43	15.87	19.15	20.40	18.03	13.99	14.23	13.84	16.92
γ 147.0	22.21	18.40	15.77	15.48	15.75	18.63	19.73	17.56	14.04	14.28	13.79	16.51
γ 148.0	21.35	17.85	15.80	15.36	15.85	18.05	19.12	17.00	14.13	14.30	13.90	16.13
γ 149.0	20.68	17.48	15.80	15.47	15.81	17.68	18.50	16.61	14.19	14.31	13.94	15.81
γ 150.0	20.08	17.08	15.84	15.42	15.78	17.33	17.82	16.22	14.13	14.42	13.97	15.41
γ 151.0	19.23	16.75	15.84	15.49	15.90	16.92	17.14	15.89	14.18	14.38	14.25	15.14
γ 152.0	18.61	16.48	15.76	15.53	15.78	16.62	16.67	15.54	14.34	14.56	14.25	14.96
γ 153.0	18.08	16.19	15.74	15.50	15.91	16.27	16.24	15.34	14.36	14.60	14.37	14.84
γ 154.0	17.64	16.02	15.86	15.61	15.89	16.16	15.86	15.09	14.42	14.64	14.45	14.80
γ 155.0	17.18	15.90	15.88	15.63	15.89	16.02	15.47	14.86	14.48	14.74	14.41	14.80
γ 156.0	16.93	15.89	15.87	15.57	15.94	16.02	15.16	14.91	14.59	14.80	14.48	14.88
γ 157.0	16.63	15.92	15.88	15.64	15.83	15.95	15.04	14.92	14.64	14.98	14.54	14.85
γ 158.0	16.50	16.03	15.95	15.71	15.86	15.90	15.03	14.96	14.69	15.01	14.60	14.93
γ 159.0	16.48	15.91	15.88	15.68	15.88	15.93	14.99	15.03	14.72	14.98	14.70	15.03
γ 160.0	16.40	15.93	15.97	15.80	15.85	15.88	15.10	15.06	14.95	15.09	14.68	15.13
γ 161.0	16.44	15.92	15.94	15.76	15.94	15.98	15.23	15.20	14.95	15.21	14.86	15.12
γ 162.0	16.45	15.85	15.98	15.76	15.91	15.84	15.21	15.15	15.06	15.28	14.93	15.19
γ 163.0	16.45	15.97	15.99	15.81	15.97	15.83	15.19	15.19	15.15	15.30	14.98	15.28
γ 164.0	16.40	15.99	15.95	15.78	16.02	15.90	15.39	15.16	15.07	15.31	15.07	15.38
γ 165.0	16.40	16.04	15.96	15.95	16.00	15.90	15.44	15.29	15.28	15.40	15.04	15.42
γ 166.0	16.39	15.99	16.06	15.94	16.01	15.98	15.44	15.42	15.33	15.41	15.13	15.55
γ 167.0	16.42	16.05	16.02	15.94	16.03	16.01	15.52	15.46	15.41	15.52	15.23	15.57
γ 168.0	16.46	16.08	16.06	16.02	16.10	15.97	15.70	15.54	15.44	15.59	15.28	15.57
γ 169.0	16.42	16.14	16.00	15.98	16.13	16.01	15.70	15.60	15.45	15.66	15.30	15.67
γ 170.0	16.56	16.16	16.05	15.97	16.15	15.97	15.80	15.68	15.50	15.75	15.38	15.70
γ 171.0	16.54	16.09	16.07	16.05	16.01	15.92	15.82	15.70	15.62	15.69	15.50	15.78
γ 172.0	16.51	16.13	16.07	15.97	16.08	16.05	15.90	15.80	15.62	15.74	15.57	15.86
γ 173.0	16.52	16.11	16.14	16.08	16.15	15.99	15.98	15.86	15.66	15.81	15.62	15.82
γ 174.0	16.48	16.09	16.04	16.05	16.23	15.98	16.04	15.85	15.74	16.01	15.62	15.82
γ 175.0	16.46	16.09	16.02	16.09	16.13	15.93	16.10	15.87	15.77	15.99	15.63	15.83
γ 176.0	16.40	16.03	16.08	16.06	16.17	15.95	16.19	15.89	15.83	16.04	15.81	15.93
γ 177.0	16.41	16.11	16.03	16.03	16.08	15.94	16.21	15.98	15.79	16.11	15.82	15.97
γ 178.0	16.38	16.08	16.03	16.10	16.03	15.94	16.28	16.08	15.81	16.21	15.84	16.00
γ 179.0	16.39	16.11	16.12	15.99	16.08	15.97	16.30	16.08	15.92	16.13	15.82	16.01
γ 180.0	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12	16.12