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

Report No.: 001 Test Time: 2019-10-14 16:35

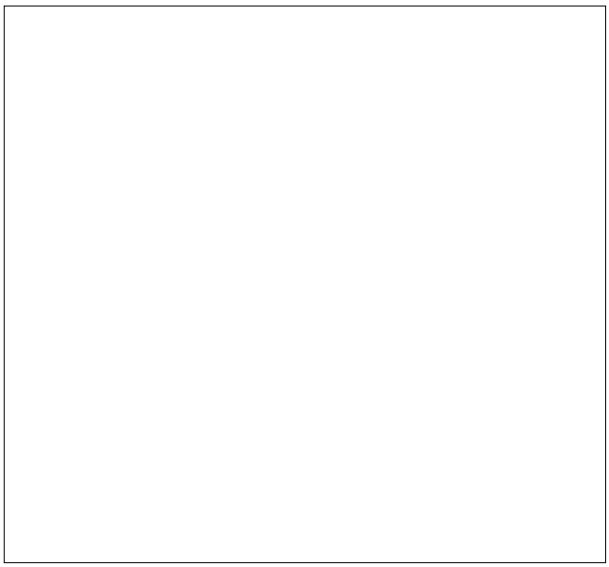
Luminaire Property

Luminaire Manufacturer:
Luminaire Category: Track Lighting
Luminaire Description: HCP-10X1000-3W-4000K
Lamp Catalog: COB
Luminous Length (mm): -38
Luminous Width (mm): -38
Luminous Height (mm): 0
Voltage: 230.6 V
Current: 0.031 A
Power: 3.28 W
Power Factor: 0.461

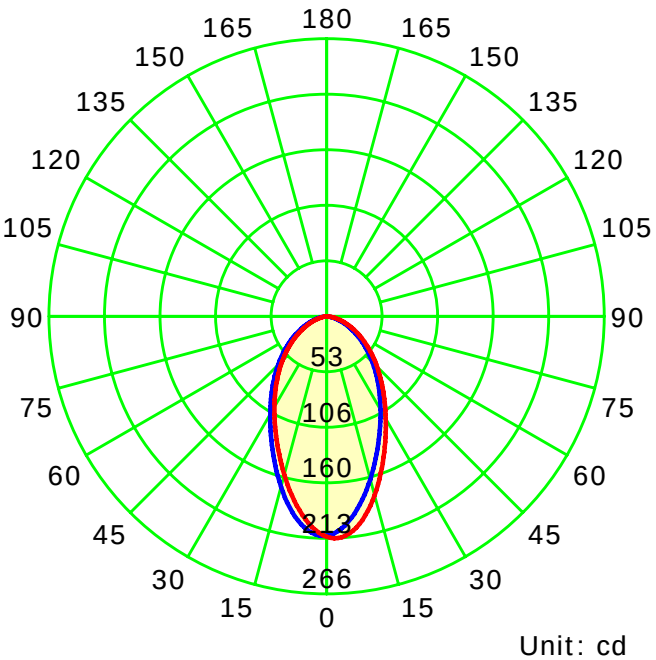
Photometric Results

CIE Class: Direct
Total Rated Lamp Lumens: 304.4 lm
Measurement Flux: 304.4 lm
Efficiency: 100%
Downward Ratio: 100%
Upward Ratio: 0%
Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 133.9, 133.6, 134.1, 133.6
Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 60.4, 60.0, 60.6, 60.2
Luminaire Efficacy Rating (LER): 92.87
Central Intensity: 210.83 cd
Max. Intensity: 213.45 cd
Pos of Max. Intensity: H90 V2
S/MH(C0/C180): 0.83
S/MH(C90/C270): 0.83

Picture Of Luminaire



Luminous Intensity Distribution Curve

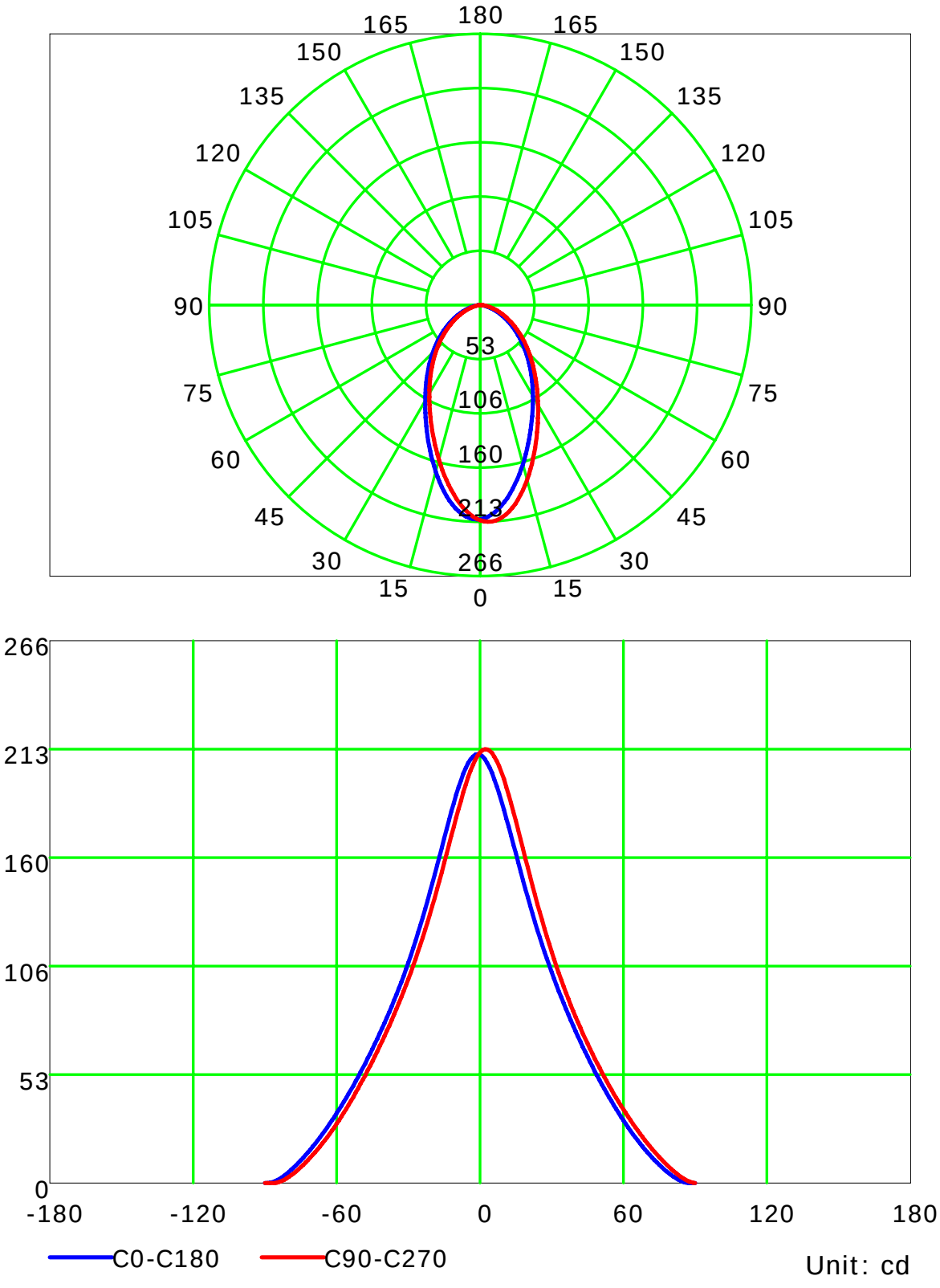


Unit: cd

C Plane (°):0.0-360.0: 45.0
Gamma Plane (°):0.0-90.0:1.0
Test Lab: Havit Commercial
Test Device: GPM-1600L
Test Type: TYPE C
Distance: 6.583 m
Temperature: 25°C
Humidity:
Operator: DING LI
Inspector:

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

Luminous Intensity Distribution Curve

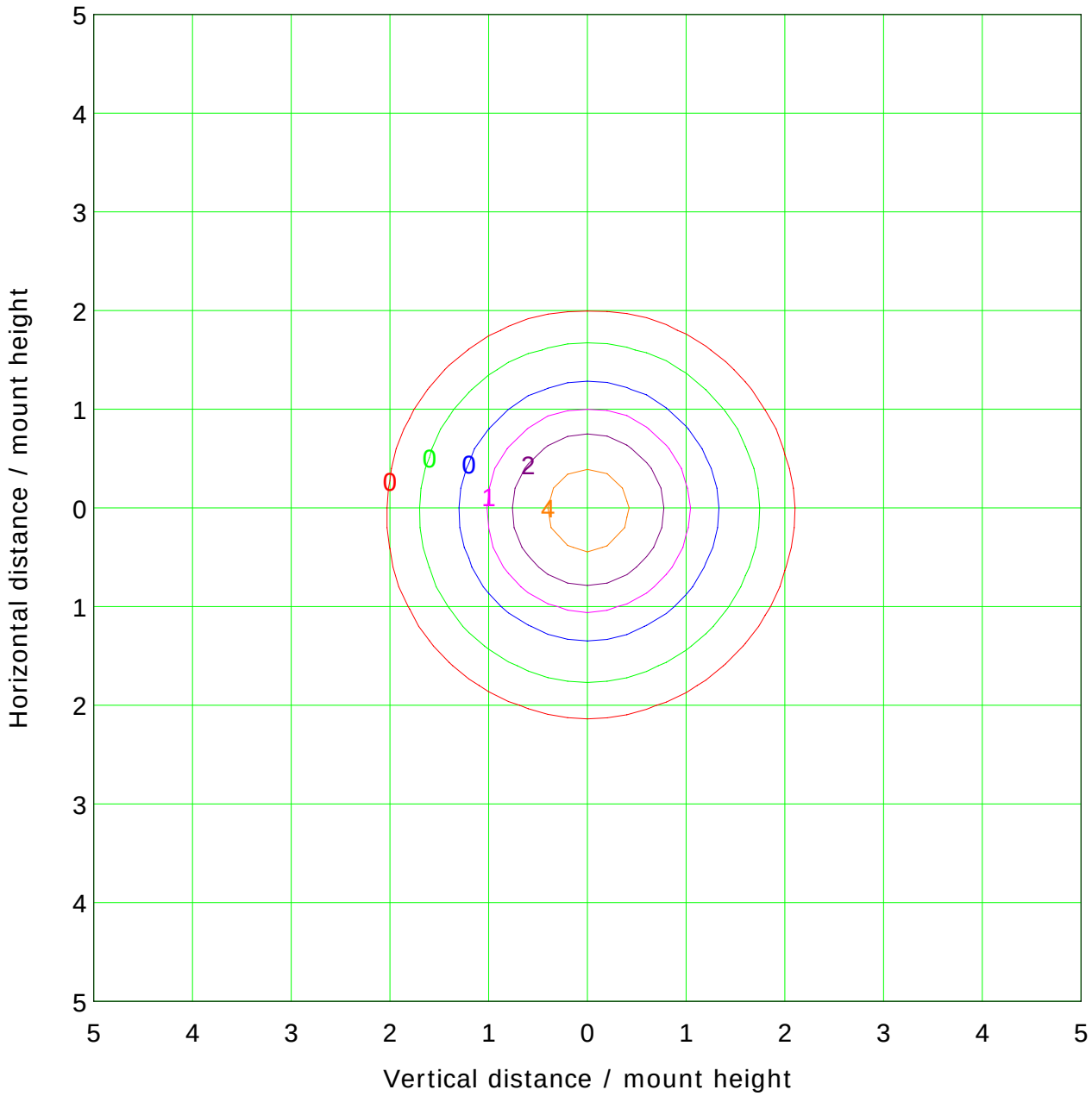


C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

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

IsoLux Plot



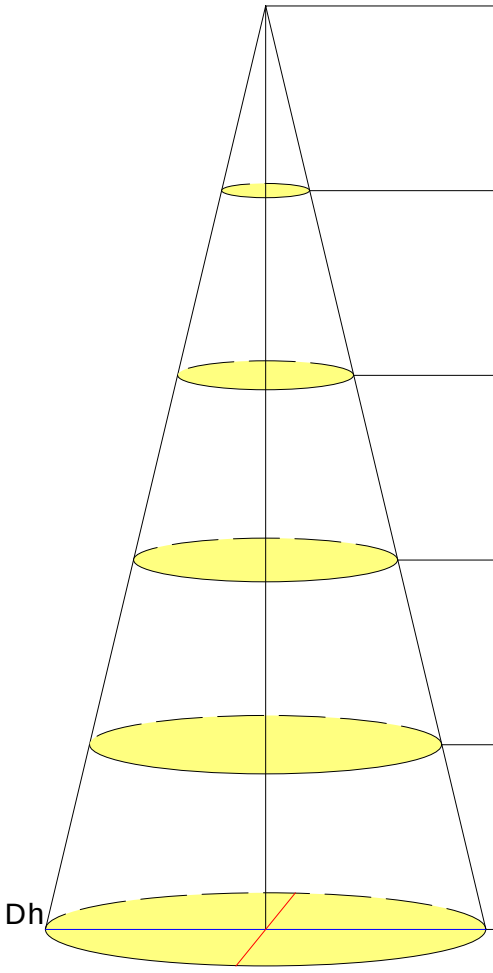
Mounting Height: 5.0m Max Lux(100%): 8.5 lx

(1%): 0.1 lx	(2%): 0.2 lx
(5%): 0.4 lx	(10%): 0.9 lx
(20%): 1.7 lx	(50%): 4.3 lx
(100%): 8.5 lx	

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Illuminance at a Distance



Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
1.0	210.83	1.16/1.16	1.1	73.73
2.0	52.71	2.33/2.31	4.3	18.43
3.0	23.43	3.49/3.47	9.6	8.19
4.0	13.18	4.66/4.62	17.1	4.61
5.0	8.43	5.82/5.78	26.7	2.95

Beam Angle(B): H60.4 V60.0 Field Angle(F): H133.9 V133.6

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

UGR Table

Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
X=2H Y=2H	26.2	27.4	26.5	27.6	27.8	26.4	27.6	26.7	27.8	28.0
3H	27.1	28.2	27.4	28.4	28.7	27.4	28.5	27.7	28.7	29.0
4H	27.3	28.4	27.7	28.6	28.9	27.7	28.7	28.0	29.0	29.3
6H	27.4	28.4	27.8	28.7	29.0	27.9	28.8	28.2	29.1	29.4
8H	27.4	28.4	27.8	28.7	29.0	27.9	28.8	28.3	29.1	29.4
12H	27.4	28.3	27.8	28.6	29.0	27.9	28.8	28.3	29.1	29.4
X=4H Y=2H	26.7	27.7	27.0	28.0	28.2	26.8	27.9	27.2	28.1	28.4
3H	27.7	28.6	28.1	28.9	29.2	28.0	28.8	28.3	29.2	29.5
4H	28.1	28.9	28.5	29.2	29.6	28.4	29.2	28.8	29.5	29.9
6H	28.2	28.9	28.7	29.3	29.7	28.6	29.3	29.1	29.7	30.1
8H	28.3	28.9	28.7	29.3	29.7	28.7	29.3	29.1	29.7	30.2
12H	28.2	28.8	28.7	29.2	29.7	28.7	29.3	29.2	29.7	30.1
X=8H Y=4H	28.2	28.9	28.7	29.2	29.7	28.5	29.1	28.9	29.5	30.0
6H	28.5	29.0	28.9	29.4	29.9	28.8	29.4	29.3	29.8	30.3
8H	28.5	29.0	29.0	29.4	29.9	28.9	29.4	29.4	29.8	30.3
12H	28.5	28.9	29.0	29.4	29.9	29.0	29.4	29.5	29.8	30.3
X=12H Y=4H	28.2	28.8	28.7	29.2	29.6	28.5	29.1	28.9	29.5	29.9
6H	28.5	28.9	29.0	29.4	29.9	28.9	29.3	29.3	29.7	30.2
8H	28.5	28.9	29.0	29.4	29.9	29.0	29.3	29.4	29.8	30.3
Variations with the observer position at spacings:										
S=1.0H	+0.3/-0.4					+0.3/-0.4				
S=1.5H	+0.5/-1.0					+0.6/-1.1				
S=2.0H	+1.0/-1.7					+0.9/-1.8				

Calculate in accordance with CIE Pub.117. The table is revised with 304lm (8log(F/F0) = -4.1).

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G0.0	210.8	211.6	211.9	212.0	210.8	211.6	211.9	212.0	210.8	
G1.0	210.0	211.9	213.0	212.7	211.0	210.7	210.4	210.7	210.0	
G2.0	208.7	211.6	213.4	212.8	210.8	209.3	208.3	209.0	208.7	
G3.0	206.7	210.8	213.4	212.4	209.8	207.3	205.7	206.7	206.7	
G4.0	204.5	209.4	212.7	211.4	208.5	205.1	202.9	204.0	204.5	
G5.0	201.9	207.7	211.6	210.0	206.6	202.4	199.7	201.0	201.9	
G6.0	198.6	205.2	209.8	207.9	204.2	199.1	196.0	197.5	198.6	
G7.0	195.3	202.6	207.7	205.6	201.5	195.8	192.4	194.0	195.3	
G8.0	191.8	199.4	205.2	202.5	198.1	192.2	188.0	190.3	191.8	
G9.0	187.8	196.1	202.0	199.4	194.8	188.1	184.1	185.8	187.8	
G10.0	183.7	192.6	198.9	196.0	191.1	184.0	179.8	181.8	183.7	
G11.0	179.4	188.3	194.9	192.0	186.9	179.6	175.3	177.1	179.4	
G12.0	175.3	184.4	190.9	187.9	183.0	175.3	171.1	173.0	175.3	
G13.0	171.0	180.3	187.0	183.9	178.7	171.2	166.6	168.6	171.0	
G14.0	166.4	175.6	182.5	179.4	174.1	166.6	162.0	164.0	166.4	
G15.0	162.3	171.4	178.2	174.9	169.7	162.1	157.6	159.8	162.3	
G16.0	157.9	166.8	173.7	170.2	165.0	157.9	153.0	155.3	157.9	
G17.0	153.3	162.4	168.9	165.9	160.5	153.2	148.7	150.8	153.3	
G18.0	149.0	158.1	164.6	161.3	156.3	149.1	144.7	146.7	149.0	
G19.0	144.6	153.3	159.6	156.5	151.7	144.7	140.2	142.1	144.6	
G20.0	140.6	149.2	155.2	152.0	147.4	140.6	136.3	138.2	140.6	
G21.0	136.5	144.7	150.7	147.4	143.3	136.7	132.3	134.2	136.5	
G22.0	132.3	140.5	146.1	143.2	138.7	132.4	128.3	130.2	132.3	
G23.0	128.4	136.6	141.9	139.1	134.8	128.7	124.6	126.3	128.4	
G24.0	124.4	132.4	137.3	134.6	130.6	124.9	120.8	122.8	124.4	
G25.0	120.9	128.5	133.3	130.7	126.7	121.0	117.2	119.0	120.9	
G26.0	117.3	124.8	129.4	126.7	123.1	117.6	113.9	115.5	117.3	
G27.0	113.6	120.7	125.0	122.7	119.1	113.8	110.2	111.9	113.6	
G28.0	110.4	117.3	121.3	118.9	115.7	110.5	107.1	108.6	110.4	
G29.0	107.1	113.6	117.5	115.1	111.9	107.2	103.5	105.4	107.1	
G30.0	103.7	110.1	113.7	111.7	108.4	103.7	100.4	101.9	103.7	
G31.0	100.6	106.9	110.2	108.2	105.3	100.5	97.5	99.0	100.6	
G32.0	97.3	103.3	106.5	104.6	101.8	97.3	94.3	95.8	97.3	
G33.0	94.3	100.3	103.3	101.3	98.8	94.5	91.4	92.8	94.3	
G34.0	91.5	97.2	100.0	98.3	95.8	91.5	88.5	90.1	91.5	
G35.0	88.4	94.0	96.7	95.0	92.7	88.5	85.6	87.1	88.4	
G36.0	85.6	91.1	93.6	92.0	89.9	85.8	83.0	84.3	85.6	

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G37.0	82.9	88.1	90.6	88.8	86.8	83.2	80.1	81.6	82.9	
G38.0	80.1	85.2	87.5	86.0	84.2	80.2	77.4	78.8	80.1	
G39.0	77.4	82.6	84.6	83.2	81.5	77.7	74.9	76.2	77.4	
G40.0	74.7	79.6	81.7	80.3	78.7	74.9	72.3	73.5	74.7	
G41.0	72.1	77.1	79.1	77.6	76.2	72.4	69.7	71.1	72.1	
G42.0	69.7	74.5	76.4	75.2	73.7	70.0	67.4	68.6	69.7	
G43.0	67.0	71.8	73.6	72.4	71.0	67.4	64.8	66.0	67.0	
G44.0	64.6	69.3	71.2	70.0	68.6	65.1	62.5	63.6	64.6	
G45.0	62.2	66.8	68.7	67.3	66.1	62.7	59.9	61.4	62.2	
G46.0	59.8	64.3	66.1	65.0	63.7	60.3	57.7	58.8	59.8	
G47.0	57.5	62.1	63.8	62.6	61.5	58.0	55.5	56.6	57.5	
G48.0	55.0	59.5	61.3	60.2	59.0	55.6	53.1	54.2	55.0	
G49.0	52.9	57.3	59.0	57.9	56.8	53.4	51.0	52.1	52.9	
G50.0	50.7	55.1	56.8	55.6	54.7	51.3	48.9	49.9	50.7	
G51.0	48.5	52.8	54.4	53.3	52.3	49.1	46.6	47.6	48.5	
G52.0	46.5	50.6	52.2	51.2	50.2	47.0	44.7	45.6	46.5	
G53.0	44.4	48.3	50.2	49.0	47.9	45.0	42.4	43.6	44.4	
G54.0	42.2	46.2	47.9	46.9	46.0	42.9	40.5	41.5	42.2	
G55.0	40.4	44.3	46.0	44.8	44.0	41.0	38.5	39.5	40.4	
G56.0	38.3	42.1	43.8	42.8	41.9	38.9	36.5	37.5	38.3	
G57.0	36.4	40.2	41.9	40.9	40.0	37.0	34.7	35.5	36.4	
G58.0	34.6	38.4	40.0	39.0	38.1	35.2	32.8	33.7	34.6	
G59.0	32.6	36.4	38.0	37.0	36.2	33.2	30.9	31.8	32.6	
G60.0	30.9	34.6	36.3	35.2	34.4	31.5	29.2	30.0	30.9	
G61.0	29.2	32.8	34.5	33.2	32.5	29.8	27.4	28.4	29.2	
G62.0	27.3	31.0	32.6	31.5	30.8	27.9	25.8	26.6	27.3	
G63.0	25.7	29.3	30.9	29.9	29.1	26.3	24.1	25.0	25.7	
G64.0	24.0	27.5	29.1	28.1	27.3	24.5	22.5	23.3	24.0	
G65.0	22.5	25.9	27.5	26.5	25.7	23.0	21.0	21.8	22.5	
G66.0	21.0	24.1	25.9	24.8	24.1	21.4	19.5	20.3	21.0	
G67.0	19.4	22.6	24.2	23.2	22.5	19.8	18.0	18.7	19.4	
G68.0	18.0	21.1	22.7	21.8	21.0	18.4	16.6	17.4	18.0	
G69.0	16.5	19.6	21.1	20.1	19.4	17.0	15.2	16.1	16.5	
G70.0	15.2	18.2	19.6	18.7	18.0	15.5	13.9	14.7	15.2	
G71.0	13.9	16.8	18.3	17.3	16.5	14.2	12.6	13.4	13.9	
G72.0	12.6	15.4	16.7	15.8	15.1	12.8	11.4	12.1	12.6	
G73.0	11.4	14.1	15.5	14.6	13.9	11.6	10.1	10.9	11.4	

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

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

Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G74.0	10.2	12.7	14.1	13.1	12.4	10.4	8.9	9.7	10.2	
G75.0	9.0	11.5	12.8	11.9	11.2	9.1	7.9	8.5	9.0	
G76.0	8.0	10.3	11.6	10.7	10.0	8.0	6.8	7.4	8.0	
G77.0	6.8	9.0	10.3	9.5	8.8	6.8	5.8	6.4	6.8	
G78.0	5.8	8.0	9.2	8.3	7.7	5.8	4.8	5.4	5.8	
G79.0	4.9	6.9	8.1	7.3	6.6	4.8	3.9	4.5	4.9	
G80.0	4.0	5.8	6.9	6.1	5.5	3.8	3.0	3.6	4.0	
G81.0	3.1	4.9	5.9	5.2	4.6	3.0	2.3	2.8	3.1	
G82.0	2.4	4.0	5.0	4.1	3.6	2.3	1.6	2.1	2.4	
G83.0	1.7	3.1	4.0	3.3	2.8	1.5	1.0	1.4	1.7	
G84.0	1.1	2.4	3.2	2.5	2.1	1.0	0.6	0.9	1.1	
G85.0	0.6	1.7	2.3	1.8	1.4	0.5	0.2	0.5	0.6	
G86.0	0.3	1.1	1.7	1.2	0.8	0.2	0.0	0.2	0.3	
G87.0	0.1	0.6	1.1	0.7	0.4	0.0	0.0	0.0	0.1	
G88.0	0.0	0.3	0.6	0.3	0.2	0.0	0.0	0.0	0.0	
G89.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	
G90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

C Plane (°):0.0-360.0: 45.0
Test Lab: Havit Commercial
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector: