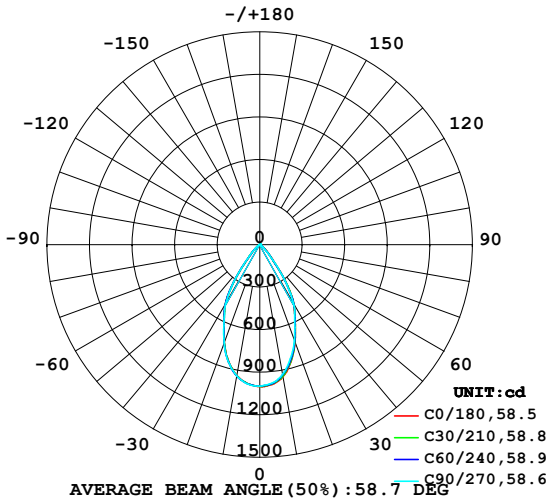
IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

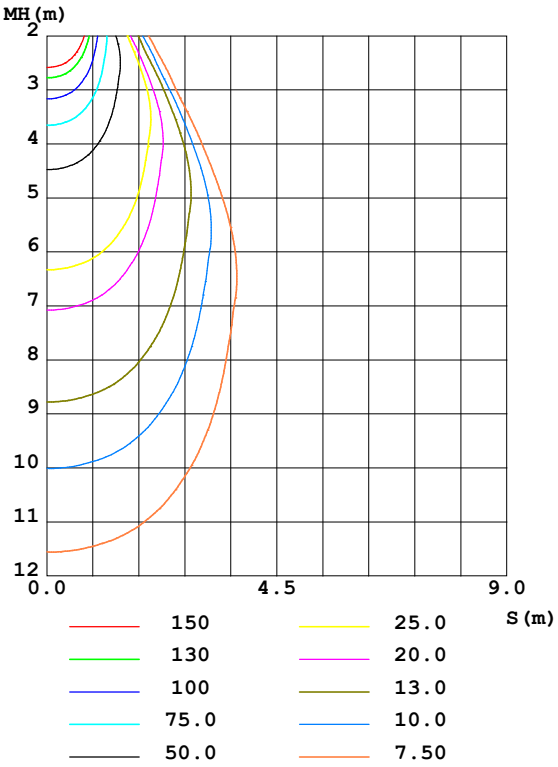
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 68.71 lm/W	
MODEL	HCP-81322112	Imax(cd)	1002	S/MH(C0/180)	0.86
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	891.41	η UP,DN(C0-180)	0.6,49.3
NOMINAL FLUX(lm)	891.407	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.5,49.6
LAMPS INSIDE	1	η up(%)	1.1	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	98.9	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):58.7 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	946.1	940.8	929.6	931.9	937.4	937.6	939.9	938.2	0- 10	92.46	92.46	10.4,10.4
20	728.1	728.9	716.4	726.7	732.8	728.3	738.3	724.6	10- 20	236.0	328.4	36.8,36.8
30	478.5	488.7	476.3	486.0	487.3	486.0	483.8	478.3	20- 30	273.5	602.0	67.5,67.5
40	153.6	153.1	148.6	152.7	146.7	147.8	155.9	154.3	30- 40	194.7	796.7	89.4,89.4
50	41.96	38.94	31.50	31.64	33.22	33.98	36.83	41.05	40- 50	62.68	859.3	96.4,96.4
60	9.239	8.768	6.954	7.776	7.943	7.886	7.622	8.432	50- 60	15.79	875.1	98.2,98.2
70	3.295	3.076	2.280	2.906	3.365	2.935	2.379	2.739	60- 70	4.876	880.0	98.7,98.7
80	0.5964	0.3165	0.2742	0.2819	0.5110	0.3395	0.2862	0.3306	70- 80	1.360	881.4	98.9,98.9
90	0.0478	0.0391	0.0390	0.0391	0.0479	0.0478	0.0478	0.0478	80- 90	0.1448	881.5	98.9,98.9
100	0.0478	0.0912	0.0477	0.0913	0.0956	0.0521	0.0825	0.0434	90-100	0.0577	881.6	98.9,98.9
110	0.2476	0.2826	0.2518	0.2956	0.2609	0.2469	0.2391	0.2512	100-110	0.1470	881.7	98.9,98.9
120	0.8113	0.8475	0.8506	0.8648	0.7651	0.7203	0.7219	0.7074	110-120	0.4785	882.2	99,99
130	1.779	1.804	1.814	1.812	1.656	1.619	1.600	1.584	120-130	1.085	883.3	99.1,99.1
140	3.008	3.015	3.026	3.046	2.838	2.778	2.768	2.726	130-140	1.762	885.0	99.3,99.3
150	4.151	4.162	4.199	4.214	4.001	3.921	3.919	3.851	140-150	2.175	887.2	99.5,99.5
160	5.029	5.073	5.150	5.147	4.943	4.868	4.883	4.759	150-160	2.085	889.3	99.8,99.8
170	5.854	5.881	5.898	5.925	5.812	5.802	5.795	5.706	160-170	1.522	890.8	99.9,99.9
180	6.432	6.493	6.441	6.471	6.445	6.497	6.441	6.467	170-180	0.5817	891.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

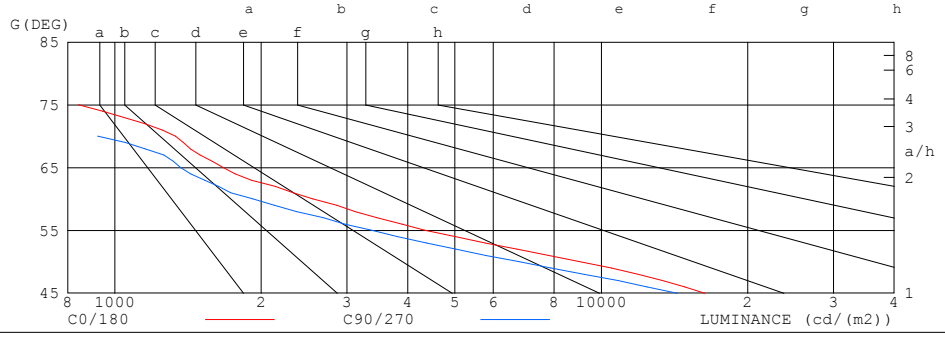
IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

LUMINANCE LIMITATION CURVES

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	290	90
80	475	218
75	841	428
70	1331	921
65	1670	1364
60	2553	1922
55	4338	3372
50	9018	6772
45	16334	14331

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

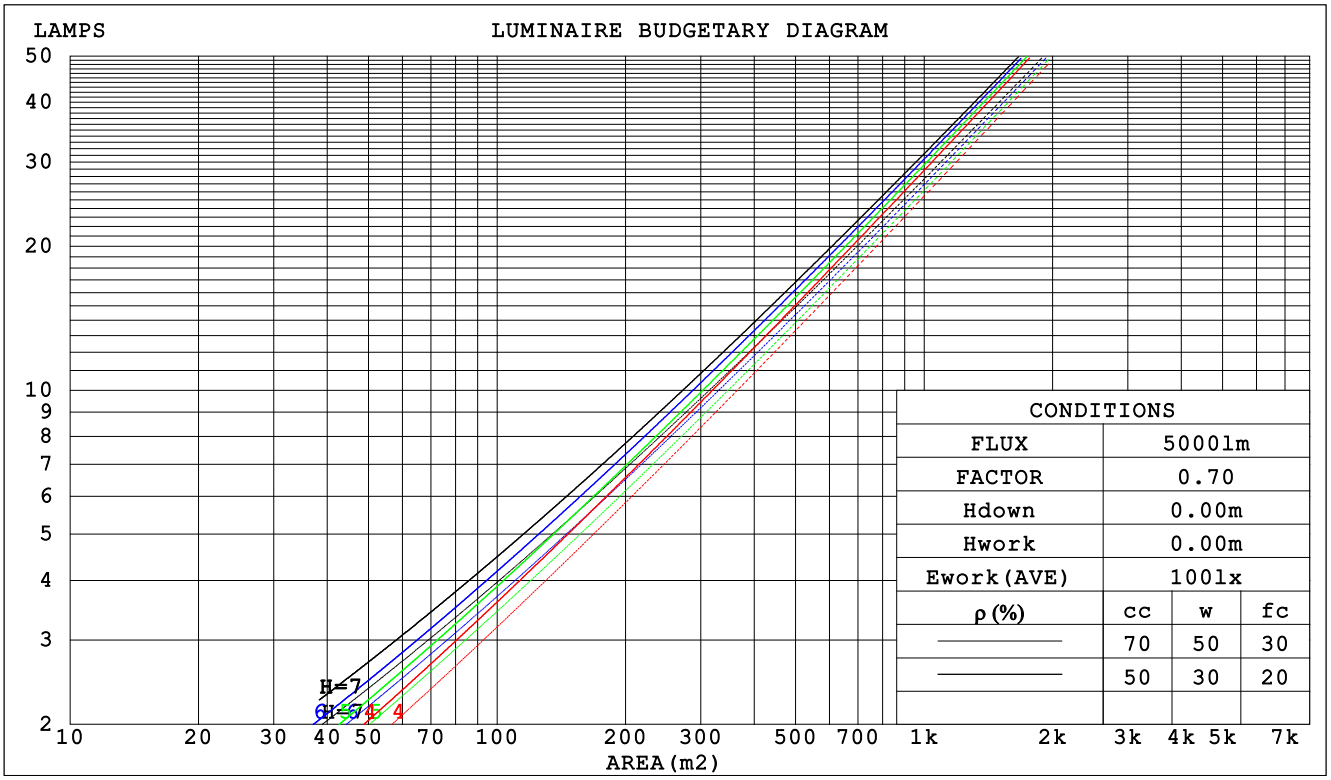
γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.06	1.06	1.06	1.01	1.01	1.01	.99
1.0	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.91	.94	.91	.89	.91	.89	.87	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.88	.85	.82	.86	.83	.81	.79
4.0	.89	.83	.79	.87	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.83	.77	.73	.82	.76	.72	.80	.75	.71	.78	.74	.71	.76	.73	.70	.68
6.0	.78	.71	.67	.77	.71	.67	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7.0	.73	.67	.62	.72	.66	.62	.71	.66	.62	.69	.65	.61	.68	.64	.61	.59
8.0	.68	.62	.58	.68	.62	.58	.67	.61	.58	.66	.61	.57	.64	.60	.57	.56
9.0	.65	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.52
10.0	.61	.55	.51	.61	.55	.51	.60	.54	.51	.59	.54	.51	.58	.54	.50	.49



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

WEC AND CCEC

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coeffcients(WEC)									
0.0																
1.0	.182	.104	.033	.175	.100	.032	.162	.093	.030	.150	.086	.028	.138	.080	.026	
2.0	.175	.096	.029	.169	.093	.029	.158	.088	.027	.147	.083	.026	.138	.078	.025	
3.0	.167	.089	.027	.162	.087	.026	.152	.082	.025	.143	.079	.024	.135	.075	.023	
4.0	.159	.083	.024	.155	.081	.024	.146	.078	.023	.139	.074	.022	.131	.071	.022	
5.0	.152	.077	.022	.148	.076	.022	.140	.073	.022	.134	.070	.021	.127	.068	.020	
6.0	.145	.073	.021	.141	.071	.021	.135	.069	.020	.129	.067	.020	.123	.065	.019	
7.0	.138	.068	.019	.135	.067	.019	.129	.065	.019	.124	.064	.018	.119	.062	.018	
8.0	.132	.065	.018	.130	.064	.018	.124	.062	.018	.119	.061	.017	.115	.059	.017	
9.0	.127	.061	.017	.124	.061	.017	.119	.059	.017	.115	.058	.017	.111	.056	.016	
10.0	.121	.058	.016	.119	.058	.016	.115	.056	.016	.111	.055	.016	.107	.054	.015	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.199	.199	.199	.170	.170	.170	.116	.116	.116	.067	.067	.067	.021	.021	.021	
1.0	.180	.166	.153	.154	.142	.132	.105	.098	.091	.061	.057	.053	.019	.018	.017	
2.0	.165	.141	.121	.142	.121	.104	.097	.084	.073	.056	.049	.043	.018	.016	.014	
3.0	.153	.122	.097	.131	.105	.085	.090	.073	.059	.052	.043	.035	.017	.014	.011	
4.0	.143	.108	.080	.123	.093	.070	.085	.065	.049	.049	.038	.029	.016	.012	.010	
5.0	.135	.096	.068	.116	.083	.059	.080	.058	.042	.046	.034	.025	.015	.011	.008	
6.0	.128	.087	.058	.110	.075	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007	
7.0	.121	.080	.050	.104	.069	.044	.072	.048	.031	.042	.028	.018	.014	.009	.006	
8.0	.116	.073	.044	.100	.064	.039	.069	.045	.027	.040	.026	.016	.013	.009	.005	
9.0	.111	.068	.040	.095	.059	.035	.066	.042	.025	.038	.025	.015	.012	.008	.005	
10.0	.106	.064	.036	.091	.055	.031	.063	.039	.022	.037	.023	.013	.012	.008	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

ceiling/cavity		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working 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	18.5	19.5	18.8	19.7	19.9	18.2	19.2	18.5	19.4	19.6
	3H	18.4	19.3	18.6	19.5	19.7	18.1	19.0	18.3	19.2	19.4
	4H	18.3	19.1	18.6	19.4	19.6	18.0	18.8	18.3	19.1	19.3
	6H	18.2	19.0	18.5	19.2	19.5	17.9	18.7	18.2	18.9	19.2
	8H	18.1	18.9	18.5	19.2	19.5	17.8	18.6	18.2	18.9	19.2
	12H	18.1	18.8	18.4	19.1	19.4	17.8	18.5	18.1	18.8	19.1
4H	2H	18.3	19.1	18.6	19.3	19.6	18.0	18.8	18.3	19.1	19.3
	3H	18.1	18.8	18.5	19.1	19.4	17.8	18.6	18.2	18.8	19.1
	4H	18.0	18.7	18.4	19.0	19.3	17.7	18.4	18.1	18.7	19.0
	6H	18.0	18.5	18.3	18.9	19.2	17.6	18.2	18.0	18.6	18.9
	8H	17.9	18.4	18.3	18.8	19.2	17.6	18.1	18.0	18.5	18.9
	12H	17.9	18.3	18.3	18.7	19.1	17.5	18.0	18.0	18.4	18.8
8H	4H	17.9	18.4	18.3	18.8	19.2	17.6	18.1	18.0	18.5	18.9
	6H	17.8	18.2	18.3	18.7	19.1	17.5	17.9	17.9	18.3	18.8
	8H	17.8	18.1	18.2	18.6	19.0	17.4	17.8	17.9	18.3	18.7
	12H	17.7	18.0	18.2	18.5	19.0	17.4	17.7	17.9	18.2	18.7
12H	4H	17.8	18.3	18.3	18.7	19.1	17.5	18.0	18.0	18.4	18.8
	6H	17.7	18.1	18.2	18.6	19.0	17.4	17.8	17.9	18.3	18.7
	8H	17.7	18.0	18.2	18.5	19.0	17.4	17.7	17.9	18.2	18.7

Variations with the observer position at spacings:		
S = 1.0H	+ 3.0 / - 8.5	+ 3.1 / - 9.8
1.5H	+ 4.7 / - 7.0	+ 5.0 / - 7.7
2.0H	+ 5.5 / - 6.7	+ 5.7 / - 6.7

CIE Pub.117, 891.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.4)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

UTILIZATION FACTORS TABLE

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	85	78	74	84	78	74	83	77	74	70
0.80	93	86	82	92	86	82	91	85	82	78
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	96	93	101	96	92	99	94	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	103	100	98	92
2.50	109	105	102	108	104	101	104	102	99	93
3.00	111	108	105	109	106	104	106	103	101	94
4.00	113	110	108	111	109	106	107	105	104	96
5.00	114	112	110	112	110	108	108	106	105	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

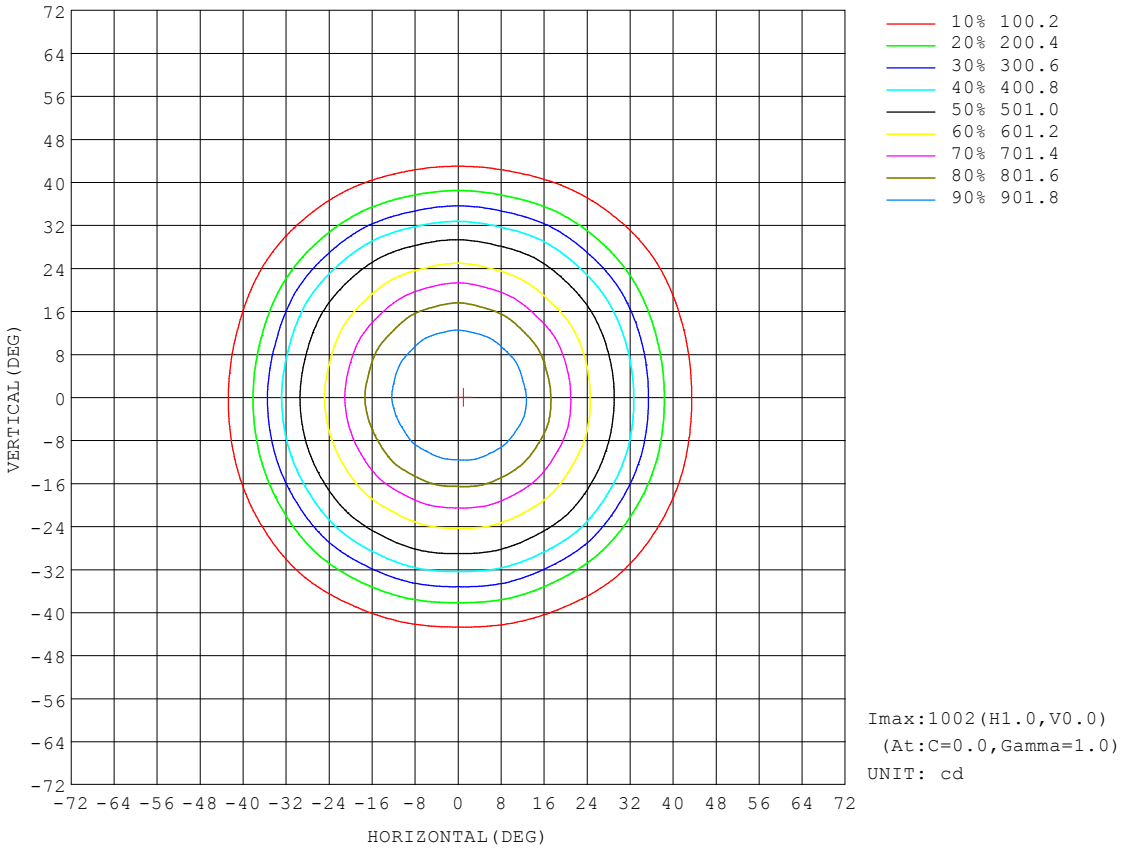
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

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γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

ISOCANDELA DIAGRAM

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

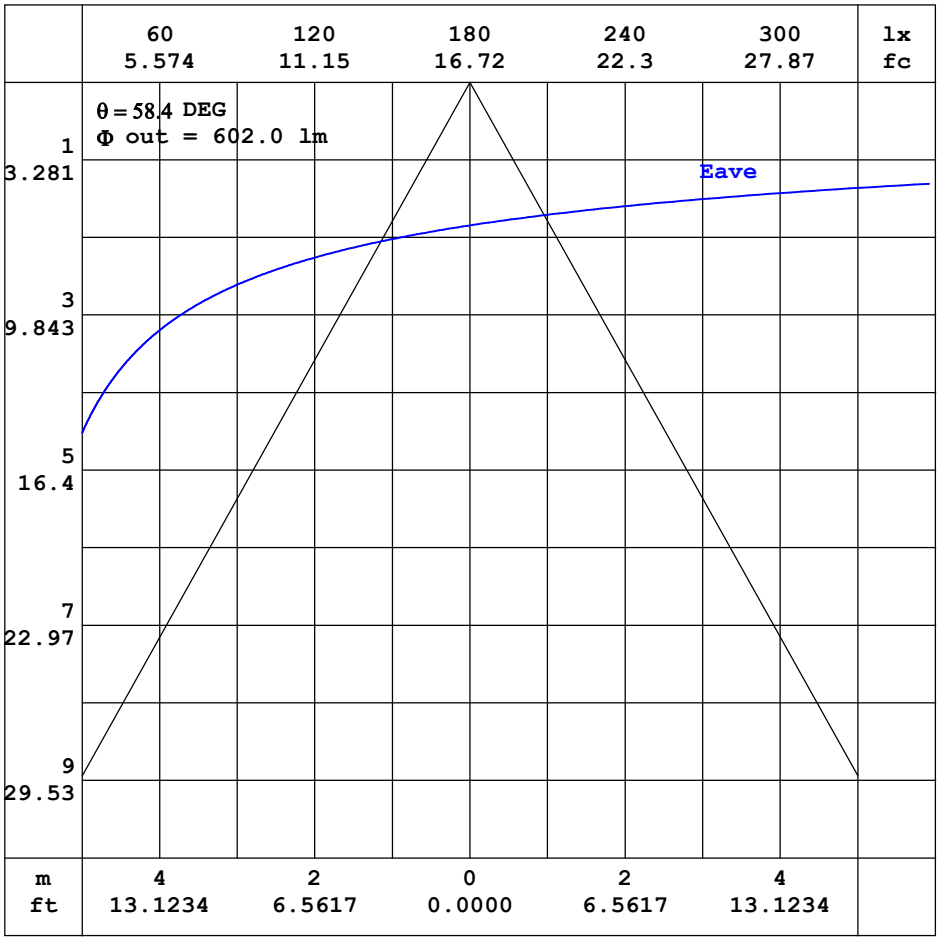


C Range: 0 - 360DEG
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Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

AAI CURVES

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

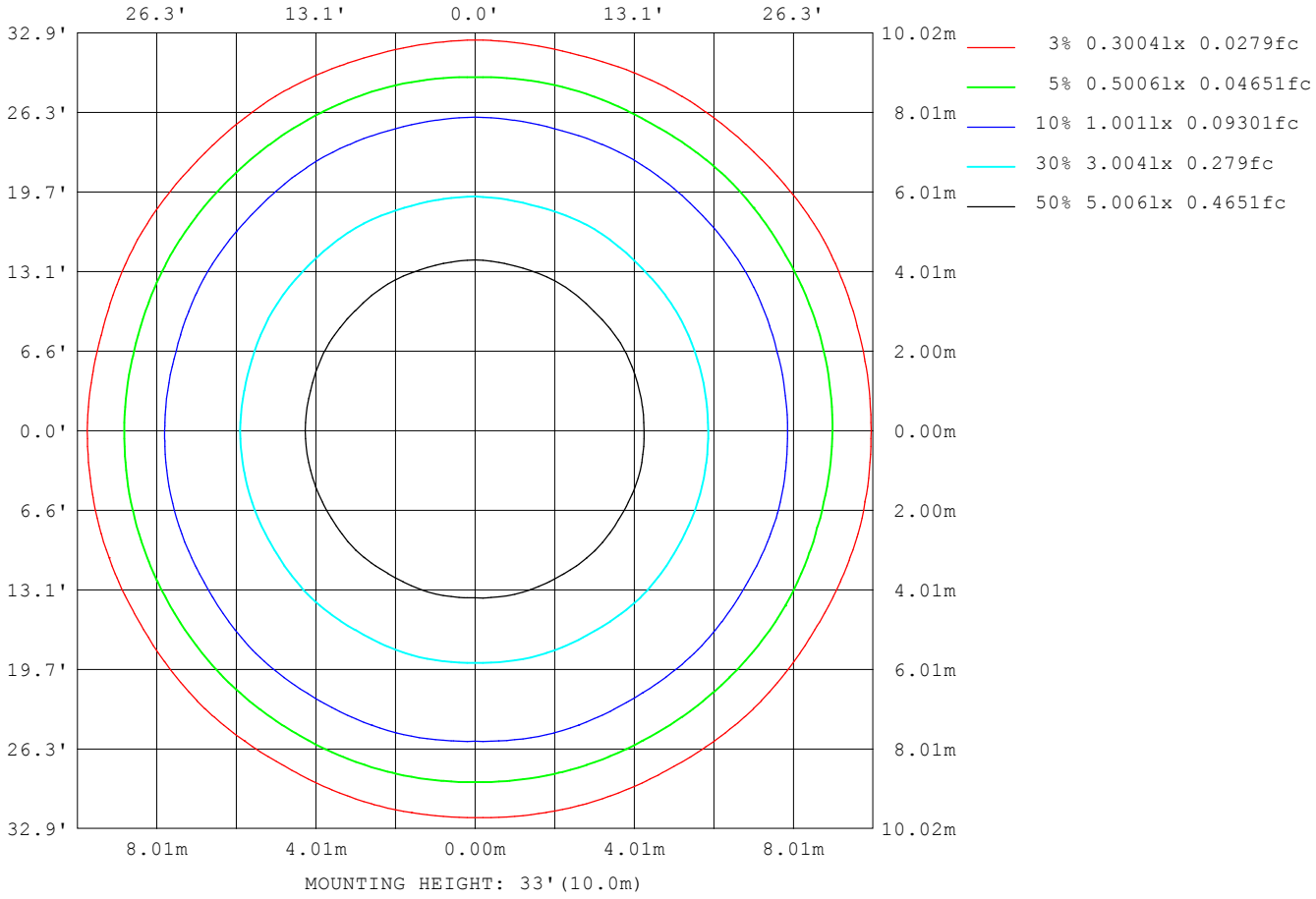
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

ISOLUX DIAGRAM

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

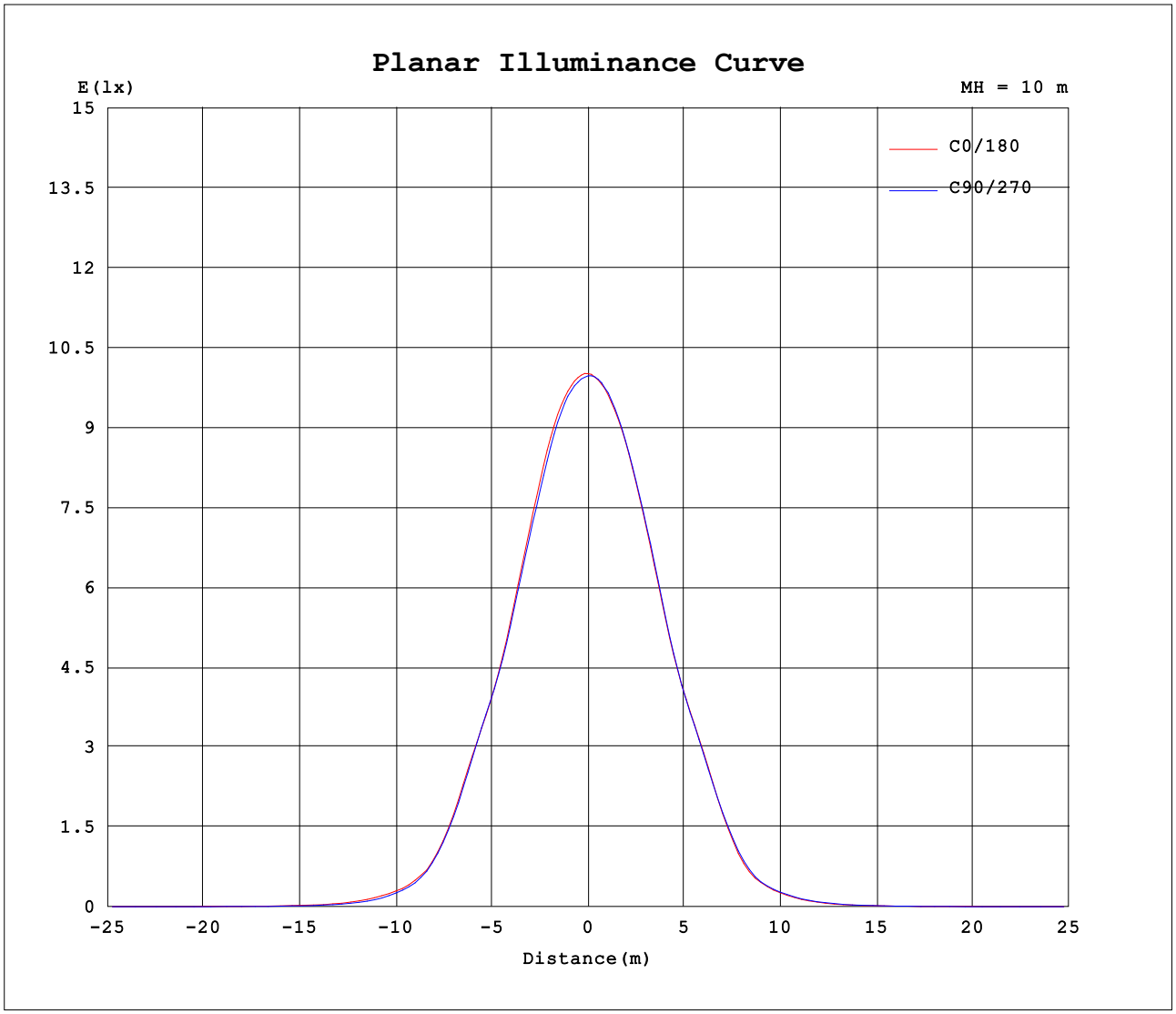
AvgL	cd/m2
L_0~180(65)av	1649
L_0~180(75)av	820
L_0~180(85)av	268
L_90~270(65)av	1394
L_90~270(75)av	442
L_90~270(85)av	83
L_45(65)av	1560
L_45(75)av	571
L_45(85)av	110

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	1001	1000	1000	1000	998	998	998	997	997	997	997	996	1001	1000	1000	1000	998	998	998
5	990	989	987	986	984	984	981	980	979	978	977	978	984	983	984	983	985	985	986
10	946	948	942	941	934	934	930	930	928	932	929	931	937	936	939	938	941	938	940
15	854	858	851	850	844	843	835	838	838	843	841	848	853	850	855	850	857	853	857
20	728	734	727	729	723	723	716	721	718	727	722	728	733	728	734	728	737	732	738
25	590	595	591	596	590	592	586	589	585	594	590	595	597	594	600	595	600	595	600
30	479	481	482	489	481	483	476	481	477	486	482	487	487	483	489	486	489	482	484
35	316	319	315	322	313	317	308	314	311	318	312	318	319	310	320	315	324	317	323
40	154	156	151	153	149	152	149	153	151	153	147	148	147	144	148	148	153	151	156
45	83.6	84.2	81.1	80.9	77.3	76.1	73.3	73.7	72.5	74.5	73.5	75.1	75.0	72.7	75.1	74.8	76.8	76.3	77.9
50	42.0	42.4	40.1	38.9	35.2	34.0	31.5	31.4	30.6	31.6	31.3	32.3	33.2	32.7	34.1	34.0	35.5	35.5	36.8
55	18.0	18.2	17.3	16.8	15.2	14.7	14.0	14.0	13.7	14.3	13.8	14.1	14.4	14.5	15.3	15.2	15.5	15.1	15.9
60	9.24	9.45	9.03	8.77	7.83	7.42	6.95	7.11	7.37	7.78	7.70	7.80	7.94	7.84	8.06	7.89	7.92	7.44	7.62
65	5.11	5.22	5.04	4.93	4.48	4.30	4.17	4.28	4.42	4.76	4.81	4.89	4.98	4.90	4.92	4.72	4.63	4.45	4.36
70	3.30	3.37	3.24	3.08	2.57	2.41	2.28	2.33	2.40	2.91	3.12	3.28	3.37	3.30	3.31	2.93	2.67	2.36	2.38
75	1.58	1.66	1.48	1.14	0.91	0.81	0.80	0.80	0.84	1.01	1.16	1.34	1.50	1.41	1.37	1.08	0.91	0.83	0.85
80	0.60	0.59	0.47	0.32	0.30	0.25	0.27	0.24	0.28	0.28	0.35	0.39	0.51	0.50	0.42	0.34	0.30	0.30	0.29
85	0.18	0.14	0.13	0.05	0.07	0.04	0.06	0.03	0.06	0.03	0.10	0.10	0.16	0.16	0.09	0.10	0.05	0.08	0.05
90	0.05	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
95	0.04	0.05	0.04	0.06	0.04	0.06	0.04	0.07	0.04	0.06	0.04	0.06	0.06	0.05	0.07	0.05	0.06	0.04	0.06
100	0.05	0.08	0.04	0.09	0.05	0.09	0.05	0.09	0.05	0.09	0.05	0.10	0.10	0.05	0.09	0.05	0.09	0.04	0.08
105	0.10	0.14	0.10	0.15	0.11	0.15	0.11	0.16	0.11	0.16	0.13	0.17	0.16	0.10	0.13	0.10	0.14	0.10	0.13
110	0.25	0.27	0.25	0.28	0.25	0.28	0.25	0.29	0.25	0.30	0.28	0.30	0.26	0.25	0.26	0.25	0.25	0.25	0.24
115	0.53	0.50	0.53	0.53	0.52	0.54	0.52	0.53	0.52	0.53	0.52	0.53	0.47	0.45	0.45	0.42	0.44	0.39	0.43
120	0.81	0.83	0.83	0.85	0.84	0.85	0.85	0.86	0.85	0.86	0.85	0.86	0.77	0.72	0.75	0.72	0.74	0.72	0.72
125	1.26	1.27	1.27	1.29	1.28	1.29	1.28	1.30	1.28	1.30	1.28	1.30	1.17	1.14	1.15	1.13	1.13	1.12	1.12
130	1.78	1.79	1.78	1.80	1.79	1.81	1.81	1.82	1.81	1.81	1.81	1.82	1.66	1.63	1.64	1.62	1.61	1.62	1.60
135	2.38	2.40	2.38	2.40	2.39	2.41	2.40	2.42	2.40	2.41	2.40	2.42	2.23	2.19	2.20	2.18	2.18	2.17	2.17
140	3.01	3.01	3.01	3.02	3.01	3.03	3.03	3.05	3.02	3.05	3.03	3.05	2.84	2.80	2.80	2.78	2.78	2.76	2.77
145	3.61	3.61	3.61	3.61	3.61	3.63	3.65	3.65	3.64	3.66	3.65	3.67	3.44	3.41	3.40	3.37	3.37	3.35	3.37
150	4.15	4.16	4.14	4.16	4.16	4.19	4.20	4.22	4.19	4.21	4.20	4.23	4.00	3.96	3.96	3.92	3.92	3.91	3.92
155	4.68	4.63	4.61	4.64	4.68	4.71	4.73	4.73	4.69	4.72	4.69	4.73	4.52	4.47	4.47	4.41	4.43	4.42	4.45
160	5.03	5.04	5.02	5.07	5.09	5.15	5.15	5.17	5.11	5.15	5.11	5.15	4.94	4.90	4.92	4.87	4.86	4.85	4.88
165	5.45	5.47	5.39	5.48	5.54	5.60	5.59	5.61	5.53	5.54	5.54	5.56	5.39	5.37	5.37	5.31	5.35	5.33	5.38
170	5.85	5.86	5.84	5.88	5.88	5.95	5.90	5.93	5.87	5.92	5.92	5.96	5.81	5.81	5.84	5.80	5.79	5.81	5.79
175	6.21	6.25	6.21	6.31	6.29	6.27	6.21	6.27	6.26	6.32	6.29	6.30	6.22	6.19	6.29	6.27	6.23	6.15	6.17
180	6.43	6.44	6.45	6.49	6.45	6.45	6.44	6.44	6.43	6.47	6.43	6.44	6.45	6.44	6.46	6.50	6.49	6.43	6.44

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 3000K.IES

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.58V I:0.0595A P:12.973W PF:0.9932 Freq:49.99Hz Lamp Flux:891.407x1 lm		
Name: HCP-81X22112 3000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

Table--2 UNIT: cd

γ (DEG) \ C(DEG)	285	300	315	330	345														
0	997	997	997	997	996														
5	985	986	985	986	985														
10	936	939	938	942	941														
15	852	855	851	854	851														
20	730	732	725	732	726														
25	593	595	589	595	592														
30	477	484	478	483	480														
35	316	324	316	323	318														
40	152	157	154	157	154														
45	76.5	80.5	81.7	85.0	83.7														
50	37.1	39.8	41.1	43.1	42.2														
55	15.7	16.8	17.0	17.7	17.7														
60	7.47	8.08	8.43	9.15	9.12														
65	4.16	4.39	4.68	5.02	5.03														
70	2.24	2.44	2.74	3.11	3.12														
75	0.83	0.92	1.06	1.27	1.41														
80	0.30	0.29	0.33	0.35	0.49														
85	0.08	0.05	0.10	0.09	0.17														
90	0.05	0.04	0.05	0.05	0.04														
95	0.05	0.05	0.04	0.05	0.05														
100	0.05	0.08	0.04	0.08	0.05														
105	0.10	0.13	0.10	0.12	0.10														
110	0.25	0.23	0.25	0.24	0.25														
115	0.39	0.42	0.39	0.43	0.39														
120	0.70	0.72	0.71	0.73	0.71														
125	1.10	1.12	1.11	1.12	1.11														
130	1.59	1.59	1.58	1.60	1.61														
135	2.17	2.16	2.17	2.16	2.17														
140	2.73	2.75	2.73	2.74	2.73														
145	3.33	3.33	3.30	3.32	3.32														
150	3.86	3.87	3.85	3.87	3.85														
155	4.42	4.36	4.29	4.33	4.33														
160	4.82	4.81	4.76	4.77	4.76														
165	5.32	5.30	5.25	5.22	5.25														
170	5.76	5.76	5.71	5.69	5.67														
175	6.14	6.20	6.15	6.15	6.09														
180	6.43	6.44	6.47	6.46	6.43														

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks: