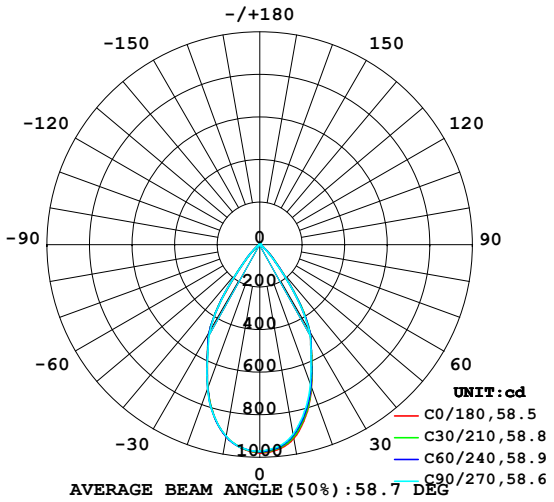
IES TEST REPORT
Photometric Filename: HCP-81X22112 2700K.IES

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

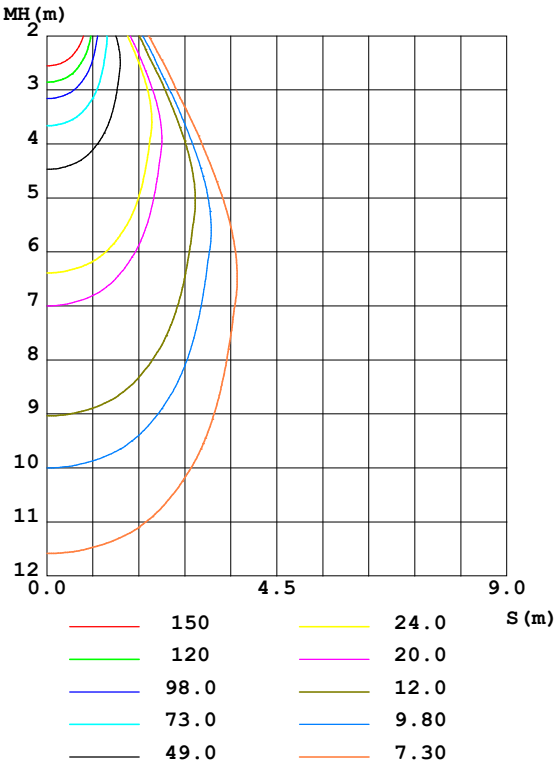
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 67.05 lm/W	
MODEL	HCP-81322112	Imax(cd)	979.5	S/MH(C0/180)	0.86
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	867.84	η UP,DN(C0-180)	0.6,49.3
NOMINAL FLUX(lm)	867.836	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.5,49.6
LAMPS INSIDE	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 2700K.IES

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	924.6	916.7	904.7	905.4	915.7	913.1	914.6	911.0	0- 10	90.04	90.04	10.4,10.4
20	711.8	711.4	697.3	706.2	716.5	710.0	718.5	703.3	10- 20	229.8	319.8	36.9,36.9
30	467.8	476.5	463.4	472.7	475.9	473.6	471.0	464.6	20- 30	266.4	586.2	67.6,67.6
40	150.7	149.1	144.5	148.8	143.7	144.0	151.5	149.3	30- 40	189.5	775.7	89.4,89.4
50	41.11	38.09	30.66	30.73	32.32	32.97	35.88	39.89	40- 50	60.90	836.6	96.4,96.4
60	9.052	8.564	6.755	7.546	7.756	7.686	7.419	8.188	50- 60	15.38	852.0	98.2,98.2
70	3.221	2.993	2.215	2.823	3.287	2.852	2.306	2.657	60- 70	4.748	856.7	98.7,98.7
80	0.5834	0.3036	0.2698	0.2777	0.5151	0.3265	0.2561	0.3176	70- 80	1.324	858.1	98.9,98.9
90	0.0435	0.0348	0.0348	0.0391	0.0478	0.0435	0.0434	0.0435	80- 90	0.1403	858.2	98.9,98.9
100	0.0434	0.0826	0.0434	0.0913	0.0870	0.0478	0.0739	0.0434	90-100	0.0553	858.3	98.9,98.9
110	0.2476	0.2739	0.2476	0.2869	0.2523	0.2512	0.2262	0.2125	100-110	0.1417	858.4	98.9,98.9
120	0.7939	0.8258	0.8069	0.8344	0.7478	0.7160	0.7043	0.6726	110-120	0.4638	858.9	99,99
130	1.736	1.751	1.753	1.760	1.608	1.554	1.565	1.541	120-130	1.056	859.9	99.1,99.1
140	2.939	2.937	2.947	2.959	2.768	2.709	2.690	2.657	130-140	1.713	861.6	99.3,99.3
150	4.051	4.053	4.124	4.092	3.914	3.825	3.815	3.717	140-150	2.117	863.8	99.5,99.5
160	4.980	4.947	5.020	5.000	4.826	4.734	4.752	4.620	150-160	2.030	865.8	99.8,99.8
170	5.723	5.742	5.741	5.755	5.682	5.632	5.638	5.541	160-170	1.481	867.3	99.9,99.9
180	6.289	6.371	6.250	6.302	6.293	6.367	6.276	6.297	170-180	0.5667	867.8	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:

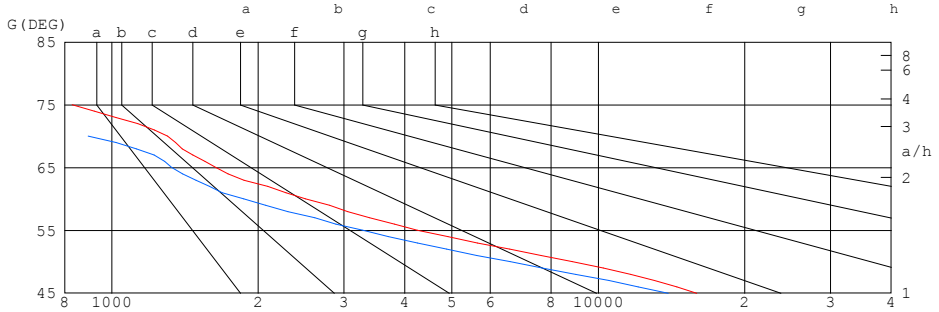
IES TEST REPORT
Photometric Filename: HCP-81X22112 2700K.IES

LUMINANCE LIMITATION CURVES

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	464	215
75	829	412
70	1301	895
65	1636	1328
60	2501	1866
55	4245	3283
50	8836	6590
45	15943	13931

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

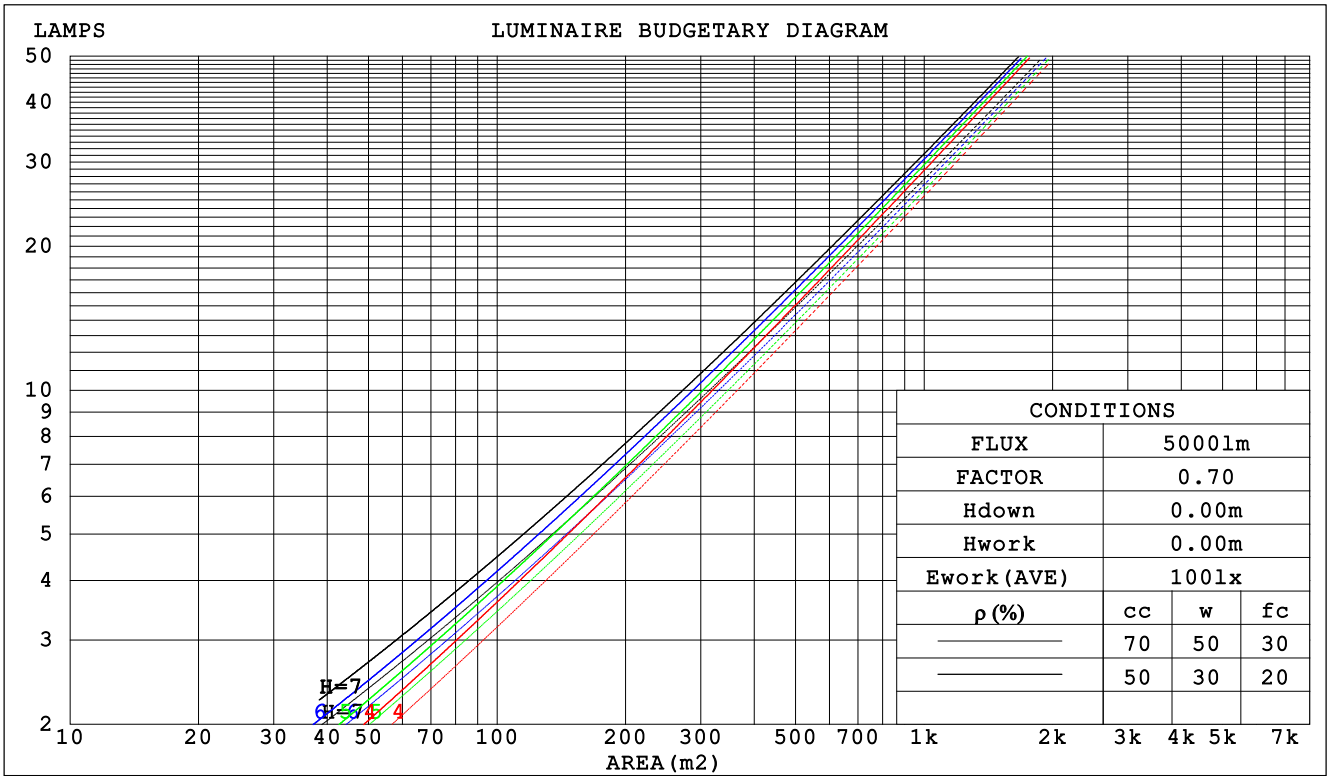
γ Range: 0 - 180DEG
γInterval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 2700K.IES

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	.60
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
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:

IES TEST REPORT
Photometric Filename: HCP-81X22112 2700K.IES

WEC AND CCEC

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	.078	.024	.135	.075	.023	
4.0	.159	.083	.024	.155	.081	.024	.146	.078	.023	.138	.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	.079	.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:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	18.4	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	19.3	19.5	17.9	18.7	18.2	18.9	19.2
	8H	18.2	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	19.4	19.6	18.0	18.8	18.3	19.1	19.3
	3H	18.1	18.9	18.5	19.1	19.4	17.8	18.6	18.2	18.9	19.2
	4H	18.1	18.7	18.4	19.0	19.4	17.7	18.4	18.1	18.7	19.1
	6H	18.0	18.5	18.4	18.9	19.3	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	19.2	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	17.9	18.3	18.3	18.7	19.1	17.6	18.0	18.0	18.4	18.8
	6H	17.8	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	+ 4.9 / - 7.7
2.0H	+ 5.5 / - 6.7	+ 5.7 / - 6.7

CIE Pub.117, 867.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.5)

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 2700K.IES

UTILIZATION FACTORS TABLE

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	

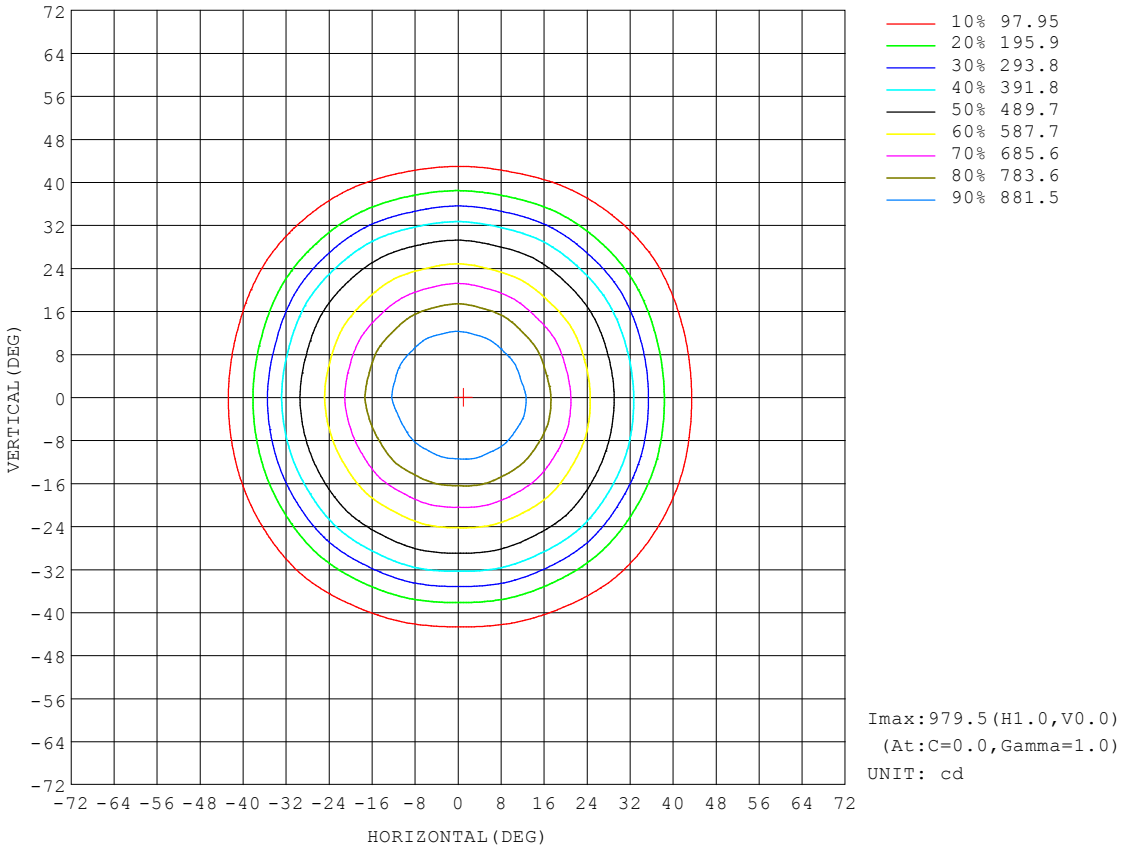
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

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 2700K.IES

ISOCANDELA DIAGRAM

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:



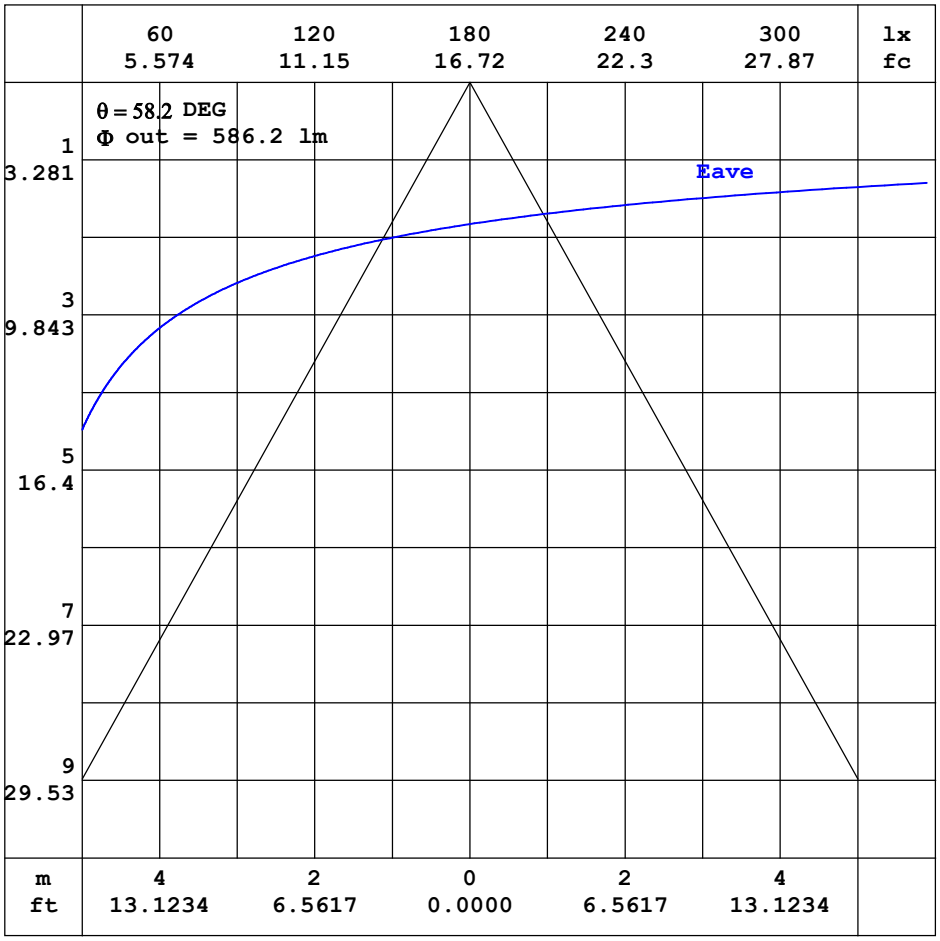
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Humidity:65.0%
Test Distance:8.003m [K=1.0000]
Remarks:

IES TEST REPORT
Photometric Filename: HCP-81X22112 2700K.IES

AAI CURVES

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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.

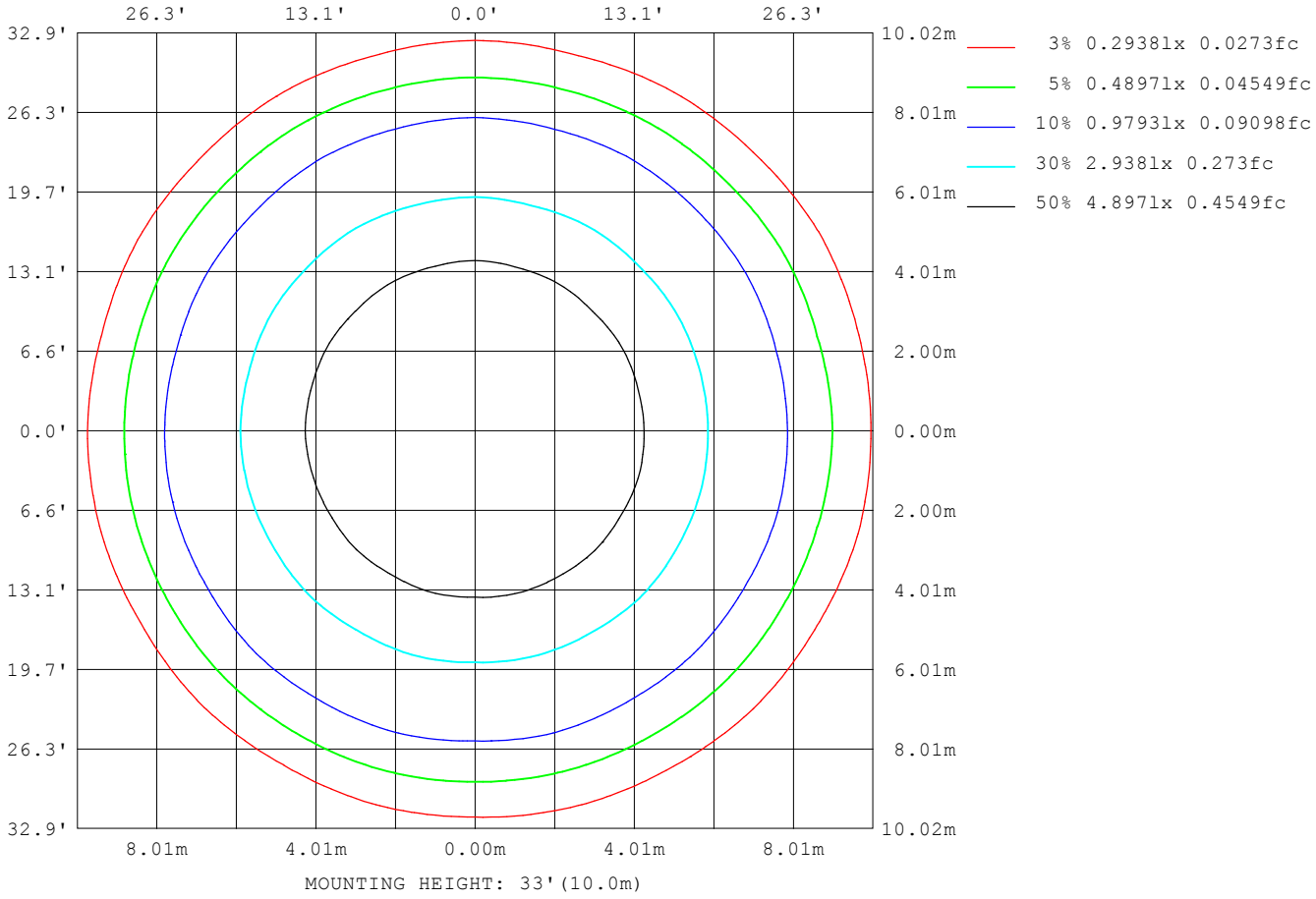
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2023-03-06

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 2700K.IES

ISOLUX DIAGRAM

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: HAVIT COMMERCIAL	SUR.:	Shielding Angle:

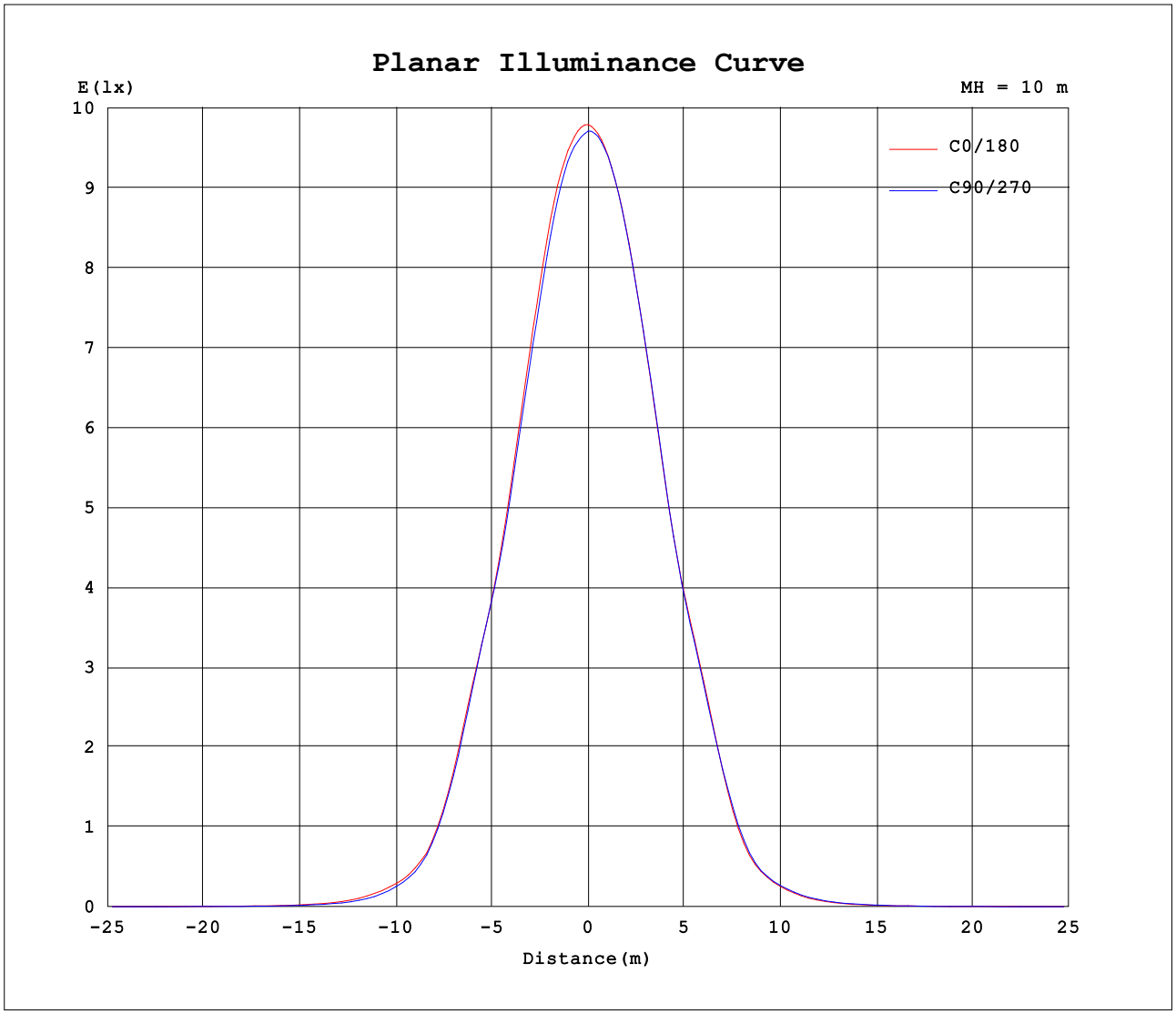
AvgL	cd/m2
L_0~180(65)av	1615
L_0~180(75)av	805
L_0~180(85)av	244
L_90~270(65)av	1355
L_90~270(75)av	424
L_90~270(85)av	86
L_45(65)av	1515
L_45(75)av	557
L_45(85)av	109

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 2700K.IES

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	979	977	976	975	973	972	971	970	970	970	968	968	979	977	976	975	973	972	971
5	967	966	963	962	959	958	955	954	952	951	949	950	962	960	960	959	959	959	960
10	925	925	918	917	909	910	905	905	902	905	902	904	916	912	916	913	917	914	915
15	835	838	830	829	822	822	813	817	815	820	818	823	834	829	833	829	834	830	834
20	712	716	709	711	704	704	697	702	698	706	702	708	716	711	716	710	717	713	718
25	577	581	577	581	576	577	570	573	569	576	573	579	584	580	585	579	585	579	583
30	468	470	470	477	469	471	463	469	464	473	469	473	476	471	477	474	477	469	471
35	309	312	307	314	306	309	300	307	302	310	305	310	312	303	313	308	315	307	314
40	151	153	147	149	145	148	145	150	147	149	143	144	144	141	145	144	149	147	152
45	81.6	82.3	79.2	78.9	75.4	74.1	71.3	72.0	70.4	72.5	71.4	73.0	73.1	70.8	73.1	72.9	74.7	74.1	75.7
50	41.1	41.6	39.1	38.1	34.4	33.1	30.7	30.6	29.7	30.7	30.4	31.4	32.3	31.8	33.2	33.0	34.5	34.6	35.9
55	17.6	17.9	16.9	16.4	14.9	14.3	13.6	13.6	13.3	13.8	13.4	13.7	14.1	14.1	14.9	14.8	15.1	14.7	15.6
60	9.05	9.28	8.82	8.56	7.61	7.24	6.75	6.92	7.16	7.55	7.48	7.56	7.76	7.65	7.86	7.69	7.72	7.24	7.42
65	5.00	5.11	4.93	4.80	4.34	4.19	4.06	4.16	4.28	4.62	4.68	4.75	4.87	4.78	4.81	4.59	4.51	4.33	4.23
70	3.22	3.30	3.15	2.99	2.49	2.35	2.22	2.27	2.33	2.82	3.04	3.18	3.29	3.22	3.24	2.85	2.60	2.30	2.31
75	1.55	1.63	1.45	1.12	0.89	0.79	0.77	0.78	0.82	0.98	1.12	1.31	1.46	1.38	1.34	1.04	0.88	0.81	0.82
80	0.58	0.58	0.45	0.30	0.29	0.25	0.27	0.25	0.28	0.28	0.34	0.37	0.52	0.49	0.39	0.33	0.26	0.29	0.26
85	0.18	0.12	0.12	0.05	0.07	0.04	0.06	0.04	0.06	0.04	0.10	0.09	0.13	0.14	0.09	0.09	0.05	0.08	0.05
90	0.04	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.04
95	0.03	0.05	0.04	0.06	0.04	0.06	0.04	0.06	0.04	0.06	0.03	0.06	0.06	0.05	0.06	0.05	0.06	0.04	0.05
100	0.04	0.09	0.04	0.08	0.04	0.08	0.04	0.09	0.04	0.09	0.05	0.10	0.09	0.05	0.09	0.05	0.08	0.04	0.07
105	0.10	0.14	0.10	0.14	0.10	0.14	0.10	0.15	0.11	0.16	0.12	0.16	0.15	0.10	0.14	0.10	0.13	0.10	0.13
110	0.25	0.27	0.26	0.27	0.25	0.27	0.25	0.28	0.26	0.29	0.25	0.29	0.25	0.25	0.25	0.25	0.25	0.25	0.23
115	0.47	0.49	0.50	0.50	0.51	0.50	0.52	0.51	0.52	0.52	0.52	0.54	0.45	0.42	0.44	0.41	0.43	0.38	0.42
120	0.79	0.82	0.79	0.83	0.80	0.83	0.81	0.83	0.81	0.83	0.82	0.83	0.75	0.72	0.73	0.72	0.72	0.69	0.70
125	1.22	1.25	1.22	1.25	1.24	1.26	1.25	1.26	1.25	1.26	1.24	1.26	1.14	1.12	1.12	1.09	1.10	1.07	1.09
130	1.74	1.75	1.74	1.75	1.74	1.76	1.75	1.76	1.75	1.76	1.74	1.76	1.61	1.62	1.59	1.55	1.57	1.55	1.56
135	2.32	2.33	2.32	2.33	2.33	2.35	2.34	2.35	2.33	2.34	2.33	2.35	2.17	2.18	2.15	2.11	2.12	2.10	2.10
140	2.94	2.94	2.93	2.94	2.93	2.95	2.95	2.97	2.94	2.96	2.94	2.97	2.77	2.73	2.73	2.71	2.71	2.68	2.69
145	3.52	3.53	3.50	3.53	3.50	3.54	3.56	3.55	3.54	3.55	3.56	3.56	3.37	3.33	3.32	3.30	3.28	3.25	3.28
150	4.05	4.06	4.04	4.05	4.05	4.08	4.12	4.11	4.08	4.09	4.11	4.10	3.91	3.86	3.86	3.83	3.82	3.79	3.81
155	4.53	4.53	4.48	4.53	4.52	4.58	4.60	4.61	4.55	4.58	4.56	4.59	4.43	4.40	4.35	4.28	4.30	4.27	4.33
160	4.98	4.93	4.89	4.95	4.96	5.01	5.02	5.03	4.98	5.00	4.98	5.00	4.83	4.79	4.80	4.73	4.73	4.73	4.75
165	5.32	5.34	5.25	5.34	5.37	5.45	5.45	5.45	5.36	5.37	5.33	5.39	5.27	5.25	5.24	5.17	5.21	5.20	5.23
170	5.72	5.73	5.68	5.74	5.73	5.79	5.74	5.77	5.72	5.76	5.74	5.79	5.68	5.68	5.70	5.63	5.64	5.60	5.64
175	6.09	6.10	6.09	6.15	6.12	6.10	6.09	6.10	6.09	6.14	6.12	6.11	6.09	6.09	6.13	6.09	6.06	6.01	6.01
180	6.29	6.29	6.29	6.37	6.30	6.28	6.25	6.25	6.23	6.30	6.28	6.25	6.29	6.28	6.30	6.37	6.31	6.28	6.28

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 2700K.IES

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.52V I:0.0594A P:12.943W PF:0.9928 Freq:49.99Hz Lamp Flux:867.836x1 lm		
Name: HCP-81X22112 2700K	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	970	970	970	968	968														
5	958	959	957	958	956														
10	911	913	911	915	913														
15	829	831	827	830	825														
20	710	712	703	711	705														
25	576	578	572	578	575														
30	464	471	465	469	466														
35	307	315	307	313	308														
40	148	152	149	152	150														
45	74.4	78.3	79.3	82.7	81.1														
50	36.1	38.7	39.9	41.9	41.1														
55	15.2	16.4	16.5	17.3	17.2														
60	7.25	7.85	8.19	8.89	8.85														
65	4.03	4.26	4.52	4.88	4.86														
70	2.17	2.36	2.66	3.02	3.02														
75	0.81	0.90	1.02	1.24	1.38														
80	0.30	0.27	0.32	0.34	0.47														
85	0.08	0.04	0.10	0.09	0.17														
90	0.05	0.04	0.04	0.04	0.04														
95	0.05	0.06	0.04	0.06	0.04														
100	0.05	0.07	0.04	0.07	0.04														
105	0.09	0.12	0.10	0.13	0.10														
110	0.22	0.22	0.21	0.23	0.25														
115	0.37	0.41	0.38	0.41	0.38														
120	0.67	0.70	0.67	0.71	0.68														
125	1.07	1.10	1.08	1.09	1.07														
130	1.54	1.56	1.54	1.56	1.55														
135	2.09	2.09	2.08	2.09	2.10														
140	2.66	2.66	2.66	2.66	2.66														
145	3.23	3.23	3.21	3.23	3.23														
150	3.77	3.77	3.72	3.76	3.76														
155	4.26	4.24	4.19	4.21	4.20														
160	4.69	4.68	4.62	4.64	4.62														
165	5.17	5.16	5.08	5.07	5.08														
170	5.59	5.61	5.54	5.53	5.54														
175	5.98	6.03	6.00	5.99	5.93														
180	6.21	6.26	6.30	6.28	6.21														

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: