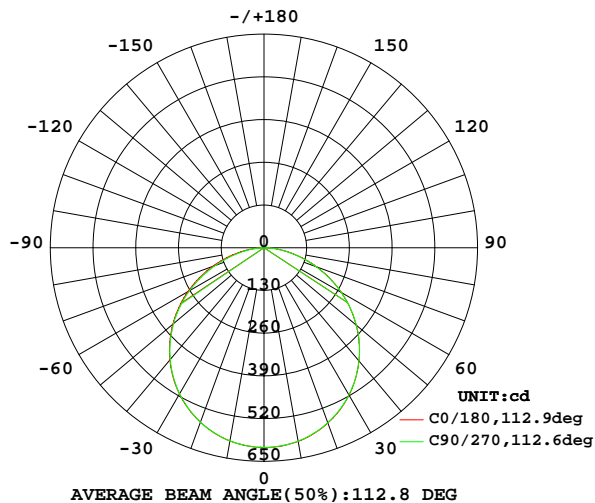


LUMINAIRE PHOTOMETRIC TEST REPORT

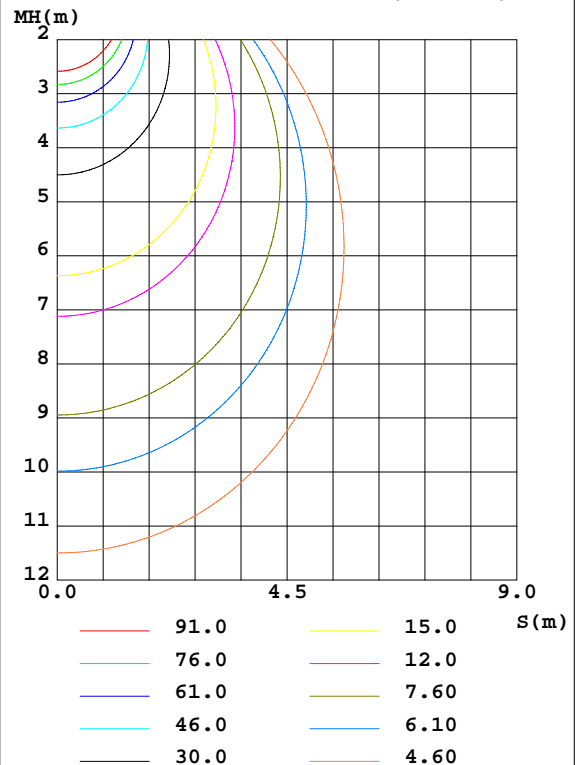
Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 70.85 lm/W			
MODEL	PS12-24W120-3CCT02	Imax(cd)	608.0	S/MH(C0/180)	1.26
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1750.0	η UP,DN(C0-180)	0.2,50.4
NOMINAL FLUX(lm)	1750.04	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,49.3
LAMPS INSIDE	1	η up(%)	0.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	99.7	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	$\%lum, lamp$
10	598.3	597.5	597.1	596.8					0- 10	57.52	57.52	3.29,3.29
20	567.8	566.9	565.3	564.9					10- 20	164.9	222.5	12.7,12.7
30	517.6	517.0	514.2	513.3					20- 30	250.4	472.8	27,27
40	449.6	449.9	445.5	444.0					30- 40	302.4	775.2	44.3,44.3
50	366.4	367.4	362.2	359.5					40- 50	314.0	1089	62.2,62.2
60	271.7	271.2	267.4	261.7					50- 60	283.4	1373	78.4,78.4
70	170.9	168.7	166.9	157.5					60- 70	214.8	1587	90.7,90.7
80	74.39	72.37	71.29	60.95					70- 80	123.0	1710	97.7,97.7
90	0.2650	2.636	0.2098	0.2288					80- 90	33.69	1744	99.7,99.7
100	0.2584	0.3480	0.4014	0.3474					90-100	0.3147	1744	99.7,99.7
110	0.4724	0.6154	0.6779	0.6950					100-110	0.4981	1745	99.7,99.7
120	0.7351	0.9227	0.9763	1.012					110-120	0.7617	1746	99.8,99.8
130	0.9848	1.119	1.257	1.279					120-130	0.9298	1747	99.8,99.8
140	1.234	1.333	1.484	1.430					130-140	0.9759	1748	99.9,99.9
150	1.466	1.538	1.694	1.631					140-150	0.9259	1749	99.9,99.9
160	1.729	1.774	1.863	1.796					150-160	0.7778	1749	100,100
170	1.947	1.948	2.010	1.916					160-170	0.5309	1750	100,100
180	2.014	1.992	2.019	1.961					170-180	0.1886	1750	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

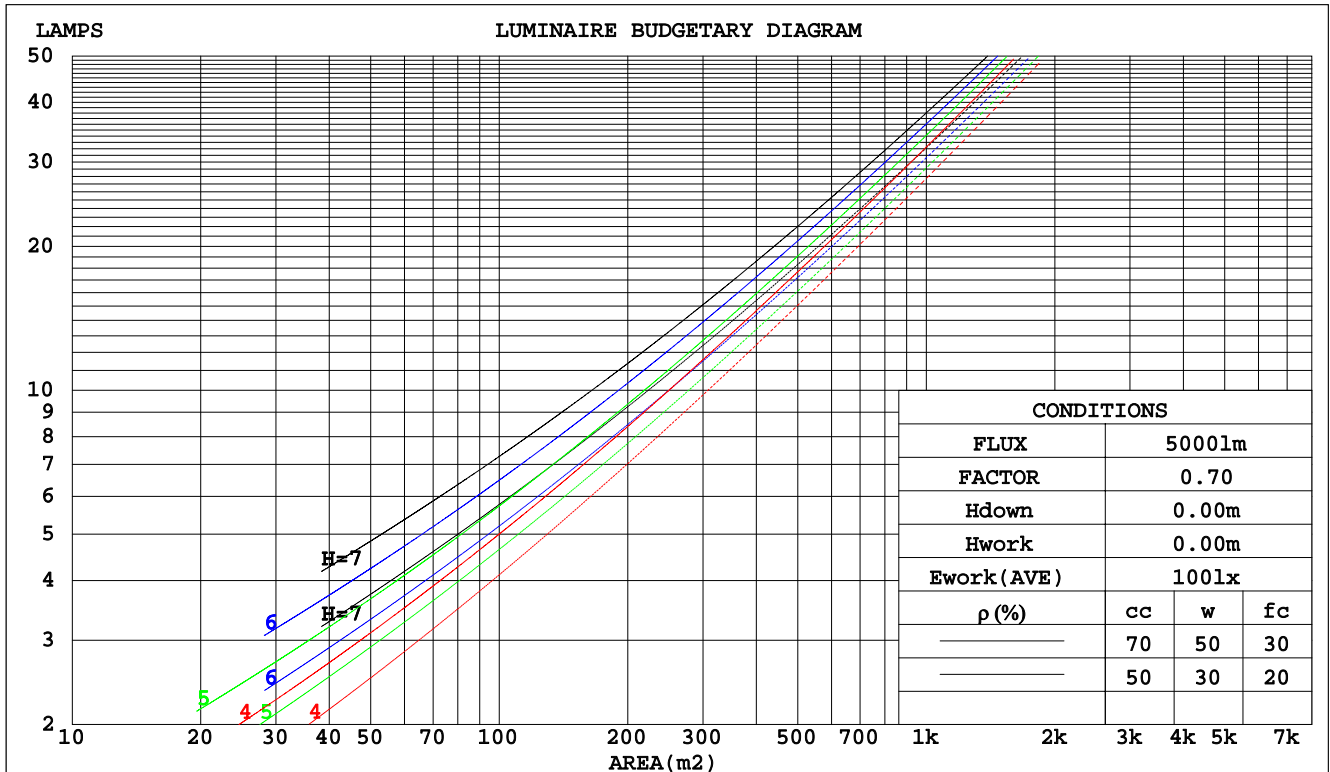
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.04	.99	.96	1.01	.98	.94	.97	.94	.91	.93	.91	.88	.89	.87	.85	.83
2.0	.90	.83	.78	.88	.82	.77	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.78	.70	.64	.75	.68	.63	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.55	.69	.60	.54	.66	.59	.53	.64	.58	.53	.62	.56	.52	.50
5.0	.63	.54	.47	.61	.53	.47	.59	.52	.46	.57	.51	.45	.55	.50	.45	.43
6.0	.56	.47	.41	.55	.47	.41	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.40	.35	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.29	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.100m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm					
NAME:			TYPE:LED		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:		Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.311	.177	.056	.303	.173	.055	.290	.166	.053	.277	.160	.051	.266	.154	.050	
2.0	.292	.160	.049	.286	.157	.049	.274	.152	.047	.263	.148	.046	.253	.143	.045	
3.0	.270	.144	.043	.265	.142	.043	.254	.138	.042	.244	.134	.041	.235	.130	.040	
4.0	.249	.130	.038	.244	.128	.038	.235	.125	.037	.226	.122	.037	.218	.119	.036	
5.0	.231	.117	.034	.226	.116	.034	.218	.113	.033	.210	.111	.033	.203	.108	.033	
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.189	.100	.030	
7.0	.199	.098	.028	.195	.097	.028	.189	.095	.028	.183	.094	.027	.177	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.024	.171	.084	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.078	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.074	.021	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.183	.159	.137	.157	.136	.118	.107	.094	.081	.062	.054	.047	.020	.017	.015	
2.0	.175	.135	.101	.150	.116	.087	.103	.080	.061	.059	.047	.036	.019	.015	.012	
3.0	.167	.117	.077	.143	.101	.067	.098	.070	.047	.057	.041	.028	.018	.013	.009	
4.0	.160	.104	.061	.137	.090	.053	.094	.062	.037	.054	.037	.022	.018	.012	.007	
5.0	.152	.093	.050	.131	.081	.043	.090	.056	.031	.052	.033	.018	.017	.011	.006	
6.0	.145	.085	.042	.125	.074	.036	.086	.051	.026	.050	.030	.015	.016	.010	.005	
7.0	.138	.078	.036	.119	.068	.031	.082	.047	.022	.048	.028	.013	.015	.009	.004	
8.0	.132	.072	.031	.113	.063	.027	.078	.044	.019	.046	.026	.012	.015	.009	.004	
9.0	.126	.067	.028	.108	.058	.024	.075	.041	.017	.044	.024	.010	.014	.008	.003	
10.0	.120	.063	.025	.103	.055	.022	.072	.038	.016	.042	.023	.009	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm											
NAME:					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					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		18.9	20.4	19.2	20.6	20.8	18.9	20.4	19.1	20.6	20.8
3H		20.4	21.8	20.7	22.1	22.3	20.4	21.8	20.7	22.0	22.3
4H		21.0	22.4	21.4	22.6	22.9	21.0	22.3	21.3	22.6	22.9
6H		21.5	22.8	21.8	23.0	23.3	21.4	22.7	21.8	23.0	23.3
8H		21.6	22.9	22.0	23.1	23.4	21.6	22.8	21.9	23.1	23.4
12H		21.7	22.9	22.1	23.2	23.5	21.7	22.8	22.0	23.1	23.5
4H	2H	19.5	20.8	19.8	21.1	21.4	19.5	20.8	19.8	21.1	21.3
	3H	21.2	22.4	21.6	22.7	23.0	21.2	22.4	21.5	22.7	23.0
	4H	22.0	23.0	22.3	23.4	23.7	21.9	23.0	22.3	23.3	23.7
	6H	22.5	23.5	22.9	23.9	24.2	22.5	23.4	22.9	23.8	24.2
	8H	22.8	23.6	23.2	24.0	24.4	22.7	23.6	23.1	24.0	24.3
	12H	22.9	23.7	23.3	24.1	24.5	22.8	23.6	23.3	24.0	24.4
8H	4H	22.2	23.1	22.6	23.5	23.9	22.2	23.1	22.6	23.5	23.8
	6H	23.0	23.7	23.4	24.1	24.6	22.9	23.7	23.4	24.1	24.5
	8H	23.3	23.9	23.7	24.3	24.8	23.2	23.9	23.7	24.3	24.7
	12H	23.5	24.1	24.0	24.5	25.0	23.4	24.0	23.9	24.4	24.9
12H	4H	22.2	23.1	22.7	23.4	23.9	22.2	23.0	22.6	23.4	23.8
	6H	23.0	23.7	23.5	24.1	24.6	23.0	23.6	23.5	24.1	24.5
	8H	23.4	23.9	23.9	24.4	24.9	23.3	23.9	23.8	24.3	24.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 1750 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.9)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

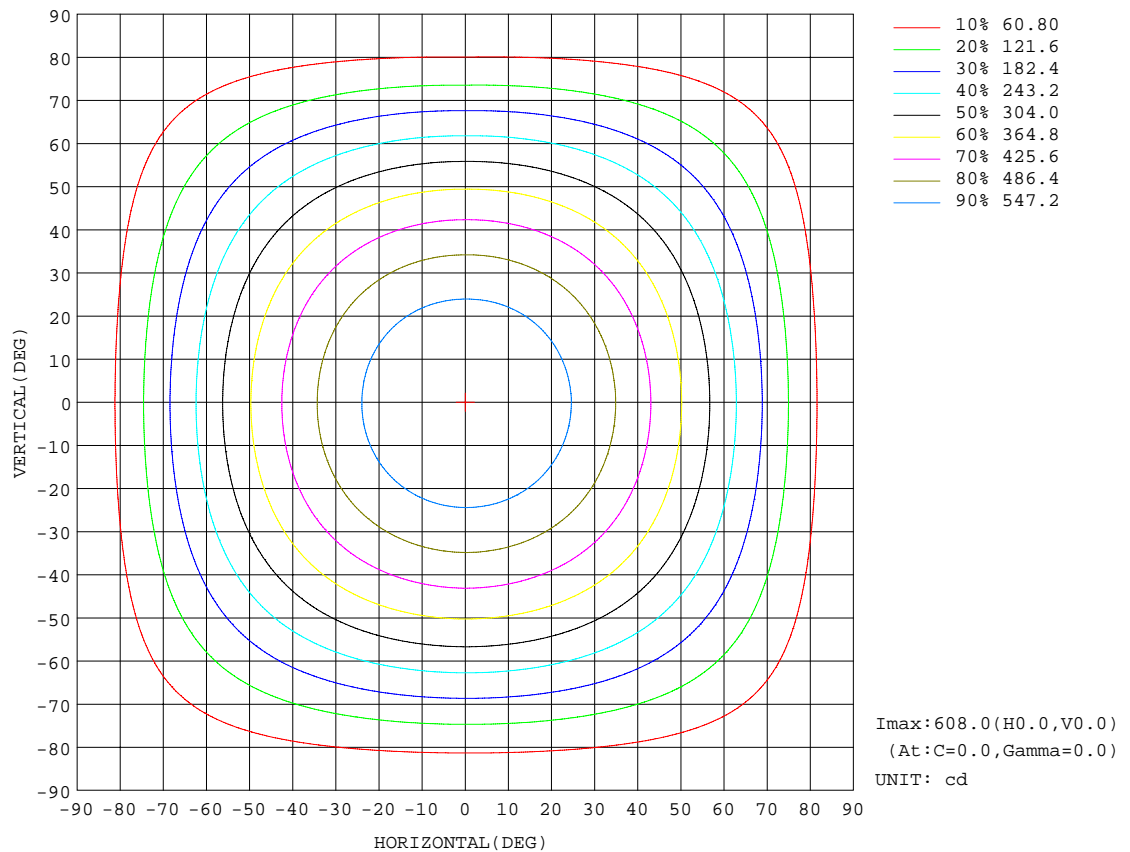
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	72	65	79	70	64	57
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	80	93	85	79	89	83	77	69
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	86	78
4.00	106	100	96	104	99	94	99	95	92	83
5.00	109	104	100	106	102	98	101	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

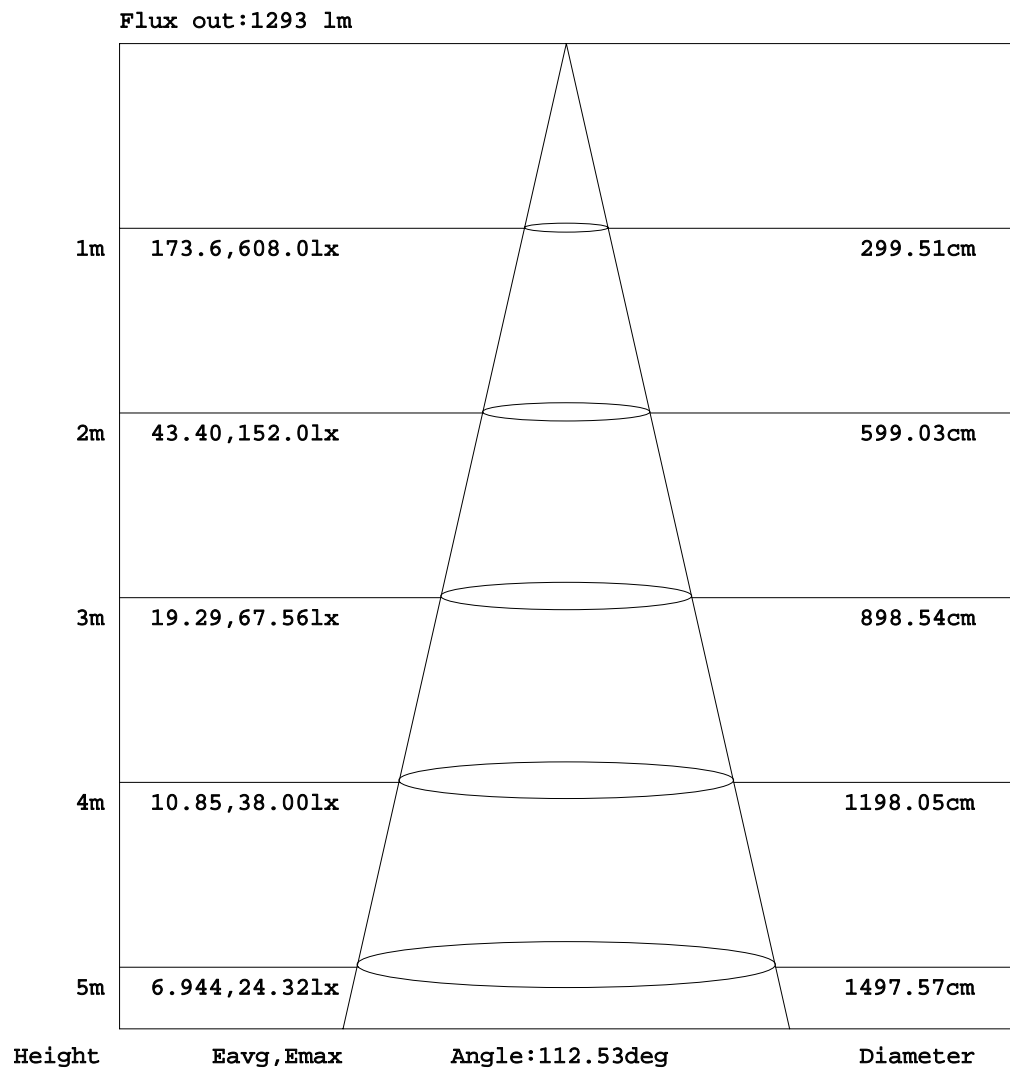


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:8.100m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



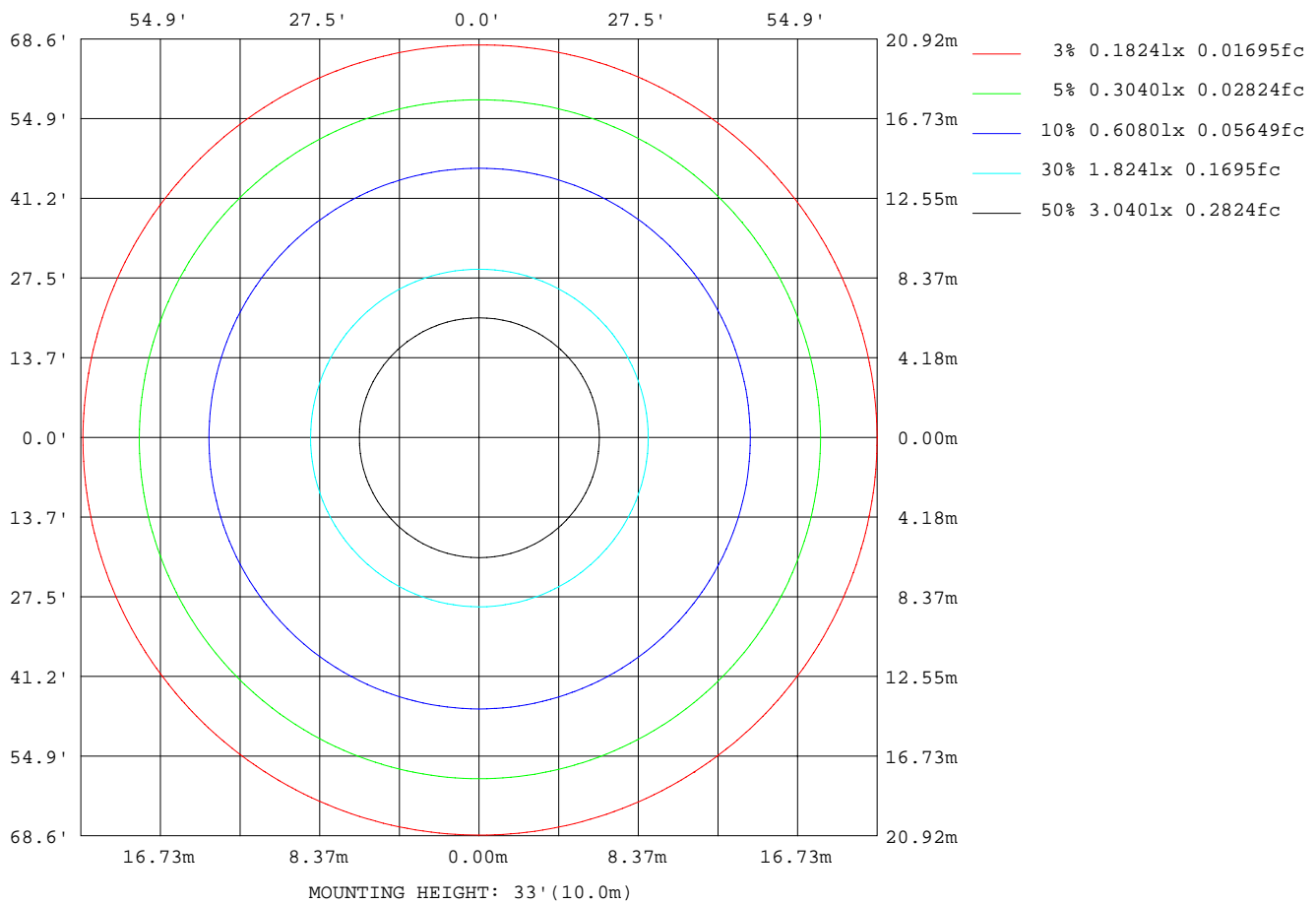
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.100m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

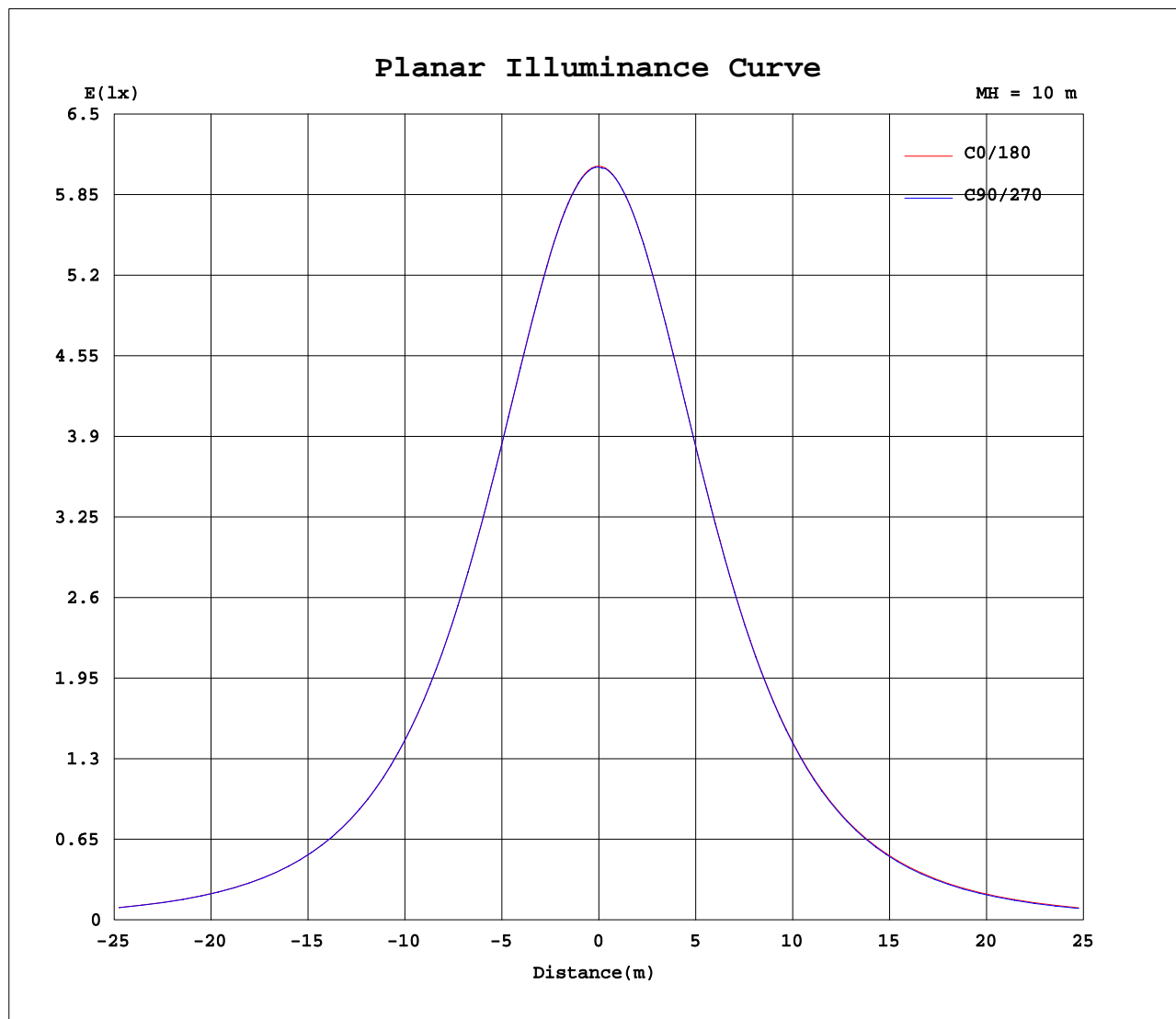
AvgL	cd/m2
L_0~180(65)av	5194
L_0~180(75)av	4606
L_0~180(85)av	3605
L_90~270(65)av	5086
L_90~270(75)av	4357
L_90~270(85)av	3095
L_45(65)av	5124
L_45(75)av	4446
L_45(85)av	3277

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 8.100m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.1V I:0.2230A P:24.70W PF:0.9230 Lamp Flux:1750.04x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	90	180	270														
0	608	607	608	607														
5	606	605	605	605														
10	598	598	597	597														
15	586	585	584	583														
20	568	567	565	565														
25	545	544	542	542														
30	518	517	514	513														
35	486	485	482	481														
40	450	450	446	444														
45	410	410	406	403														
50	366	367	362	360														
55	320	321	316	312														
60	272	271	267	262														
65	222	220	217	210														
70	171	169	167	157														
75	121	119	117	107														
80	74.4	72.4	71.3	61.0														
85	32.7	31.9	30.2	22.0														
90	0.26	2.64	0.21	0.23														
95	0.17	0.27	0.29	0.24														
100	0.26	0.35	0.40	0.35														
105	0.37	0.47	0.53	0.51														
110	0.47	0.62	0.68	0.69														
115	0.60	0.77	0.83	0.88														
120	0.74	0.92	0.98	1.01														
125	0.86	1.03	1.12	1.14														
130	0.98	1.12	1.26	1.28														
135	1.11	1.22	1.39	1.32														
140	1.23	1.33	1.48	1.43														
145	1.35	1.44	1.59	1.53														
150	1.47	1.54	1.69	1.63														
155	1.59	1.66	1.78	1.72														
160	1.73	1.77	1.86	1.80														
165	1.87	1.88	1.94	1.87														
170	1.95	1.95	2.01	1.92														
175	1.99	1.97	2.02	1.95														
180	2.01	1.99	2.02	1.96														

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.100m [K=1.0000]
 Remarks: