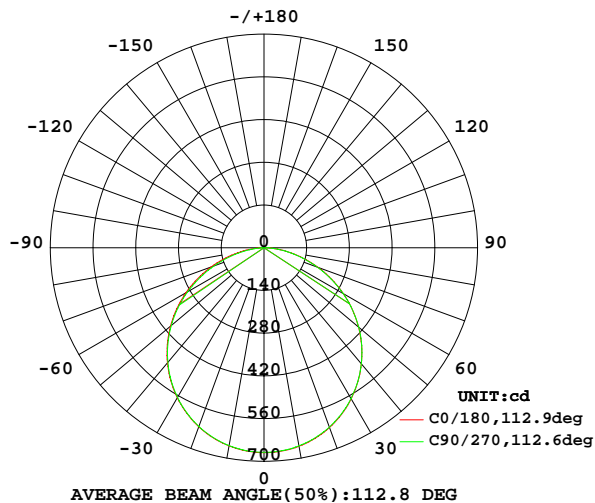


LUMINAIRE PHOTOMETRIC TEST REPORT

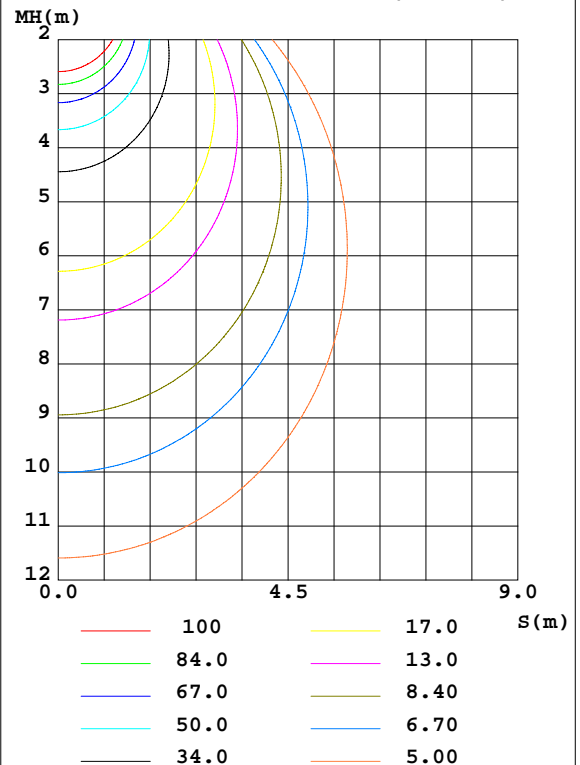
Test:U:120.1V I:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.48 lm/W			
MODEL	PS12-24W120-3CCT02	Imax(cd)	671.6	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)	1932.2	η UP,DN(C0-180)	0.2,50.3
NOMINAL FLUX(lm)	1932.24	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	660.7	659.3	659.3	658.6					0- 10	63.50	63.50	3.29,3.29
20	627.0	625.9	624.4	623.6					10- 20	182.1	245.6	12.7,12.7
30	571.8	570.6	568.0	566.6					20- 30	276.4	522.0	27,27
40	496.5	496.2	492.3	490.1					30- 40	333.8	855.8	44.3,44.3
50	404.6	405.3	400.0	396.8					40- 50	346.7	1203	62.2,62.2
60	300.3	299.5	295.6	288.9					50- 60	312.8	1515	78.4,78.4
70	188.8	186.0	184.3	173.8					60- 70	237.2	1753	90.7,90.7
80	82.23	79.72	78.72	67.49					70- 80	135.9	1888	97.7,97.7
90	0.3032	2.850	0.2364	0.2551					80- 90	37.22	1926	99.7,99.7
100	0.3029	0.3970	0.4504	0.3874					90-100	0.3542	1926	99.7,99.7
110	0.5348	0.6866	0.7577	0.7703					100-110	0.5574	1927	99.7,99.7
120	0.8244	1.025	1.083	1.132					110-120	0.8470	1927	99.8,99.8
130	1.100	1.239	1.386	1.404					120-130	1.032	1928	99.8,99.8
140	1.368	1.466	1.649	1.582					130-140	1.078	1930	99.9,99.9
150	1.627	1.703	1.876	1.805					140-150	1.024	1931	99.9,99.9
160	1.921	1.961	2.073	1.988					150-160	0.8620	1931	100,100
170	2.157	2.153	2.237	2.126					160-170	0.5884	1932	100,100
180	2.233	2.206	2.237	2.175					170-180	0.2089	1932	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

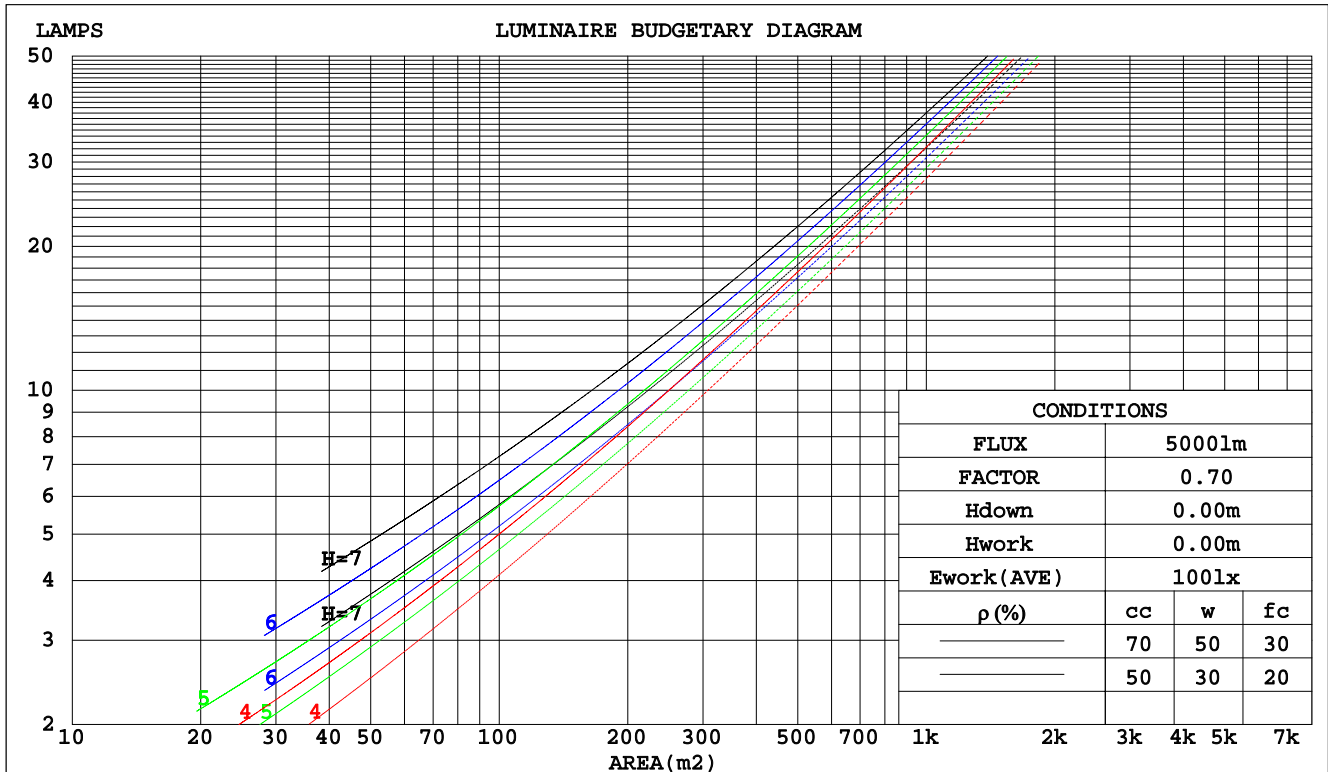
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Homi	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	.54	.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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 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	.278	.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	.245	.128	.038	.235	.125	.037	.227	.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	.196	.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	.079	.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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 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		19.2	20.7	19.5	21.0	21.2	19.2	20.7	19.5	20.9	21.2
3H		20.8	22.2	21.1	22.4	22.7	20.7	22.1	21.0	22.4	22.6
4H		21.4	22.7	21.7	23.0	23.2	21.3	22.7	21.7	22.9	23.2
6H		21.8	23.1	22.2	23.4	23.7	21.8	23.0	22.1	23.3	23.6
8H		22.0	23.2	22.3	23.5	23.8	21.9	23.1	22.3	23.4	23.7
12H		22.1	23.3	22.4	23.6	23.9	22.0	23.2	22.4	23.5	23.8
4H 2H		19.8	21.2	20.2	21.4	21.7	19.8	21.2	20.2	21.4	21.7
3H		21.6	22.7	21.9	23.0	23.3	21.5	22.7	21.9	23.0	23.3
4H		22.3	23.4	22.7	23.7	24.0	22.3	23.3	22.6	23.7	24.0
6H		22.9	23.8	23.3	24.2	24.6	22.8	23.8	23.2	24.1	24.5
8H		23.1	24.0	23.5	24.4	24.8	23.0	23.9	23.4	24.3	24.7
12H		23.2	24.1	23.7	24.4	24.9	23.2	24.0	23.6	24.4	24.8
8H 4H		22.6	23.5	23.0	23.8	24.2	22.5	23.4	23.0	23.8	24.2
6H		23.3	24.1	23.8	24.5	24.9	23.3	24.0	23.7	24.4	24.8
8H		23.6	24.3	24.1	24.7	25.2	23.5	24.2	24.0	24.6	25.1
12H		23.8	24.4	24.3	24.9	25.3	23.8	24.3	24.2	24.8	25.3
12H 4H		22.6	23.4	23.0	23.8	24.2	22.6	23.4	23.0	23.8	24.2
6H		23.4	24.0	23.8	24.5	24.9	23.3	24.0	23.8	24.4	24.9
8H		23.7	24.3	24.2	24.7	25.2	23.7	24.2	24.1	24.7	25.2
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.2					+ 0.2 / - 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 1932 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.3)

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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

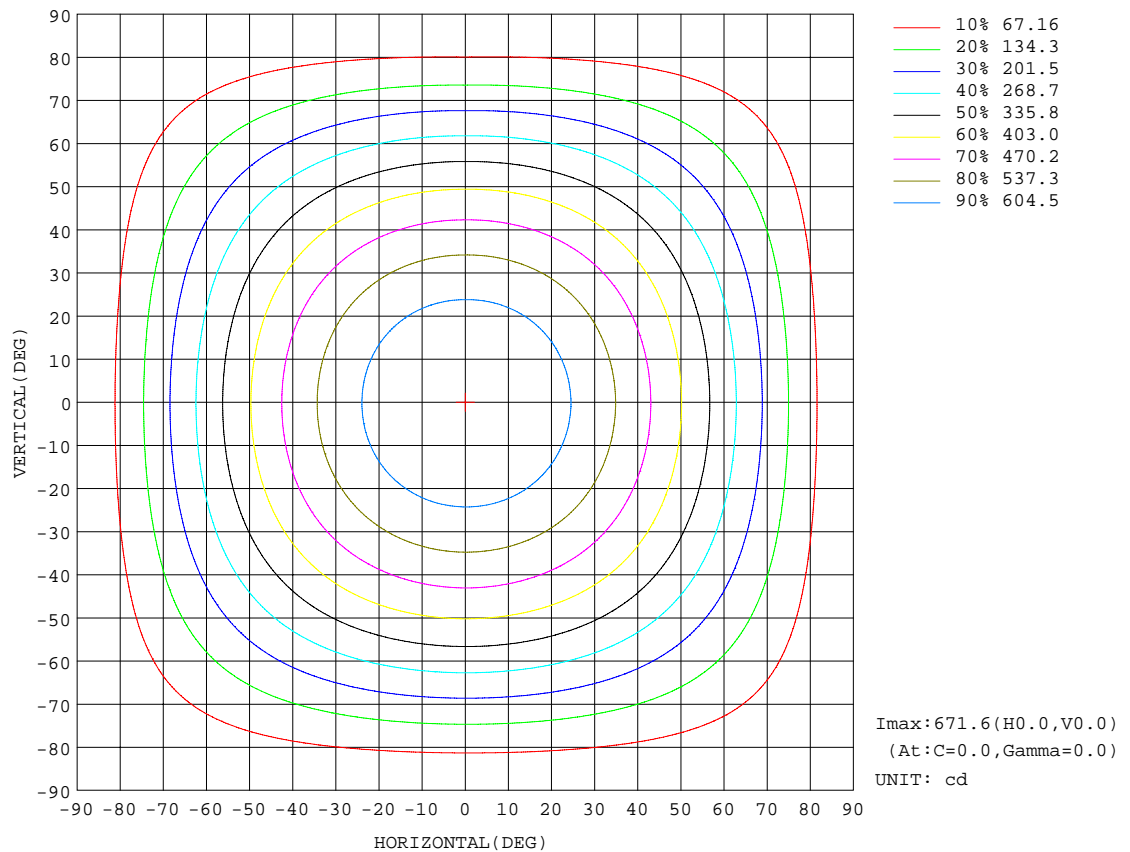
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	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	89	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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

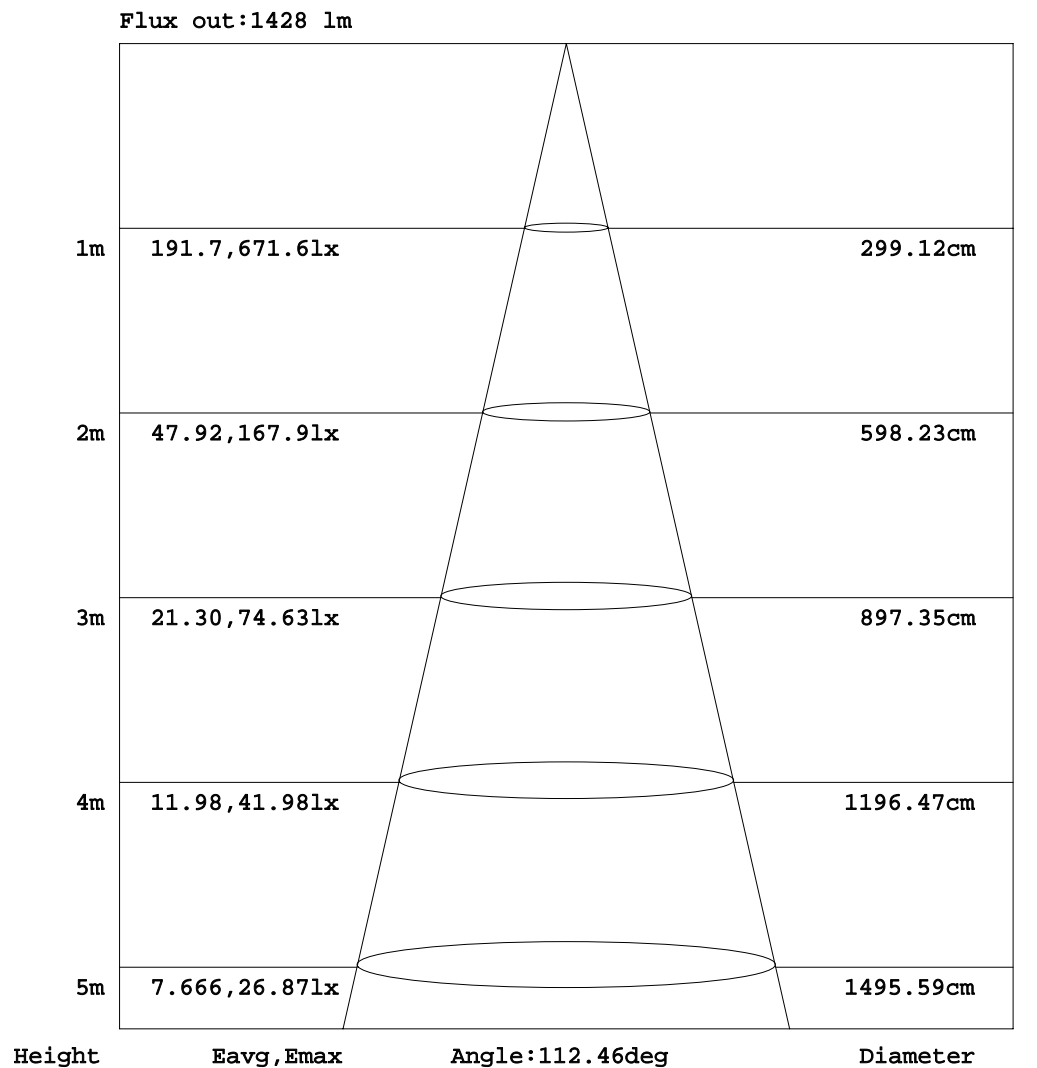


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-26

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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



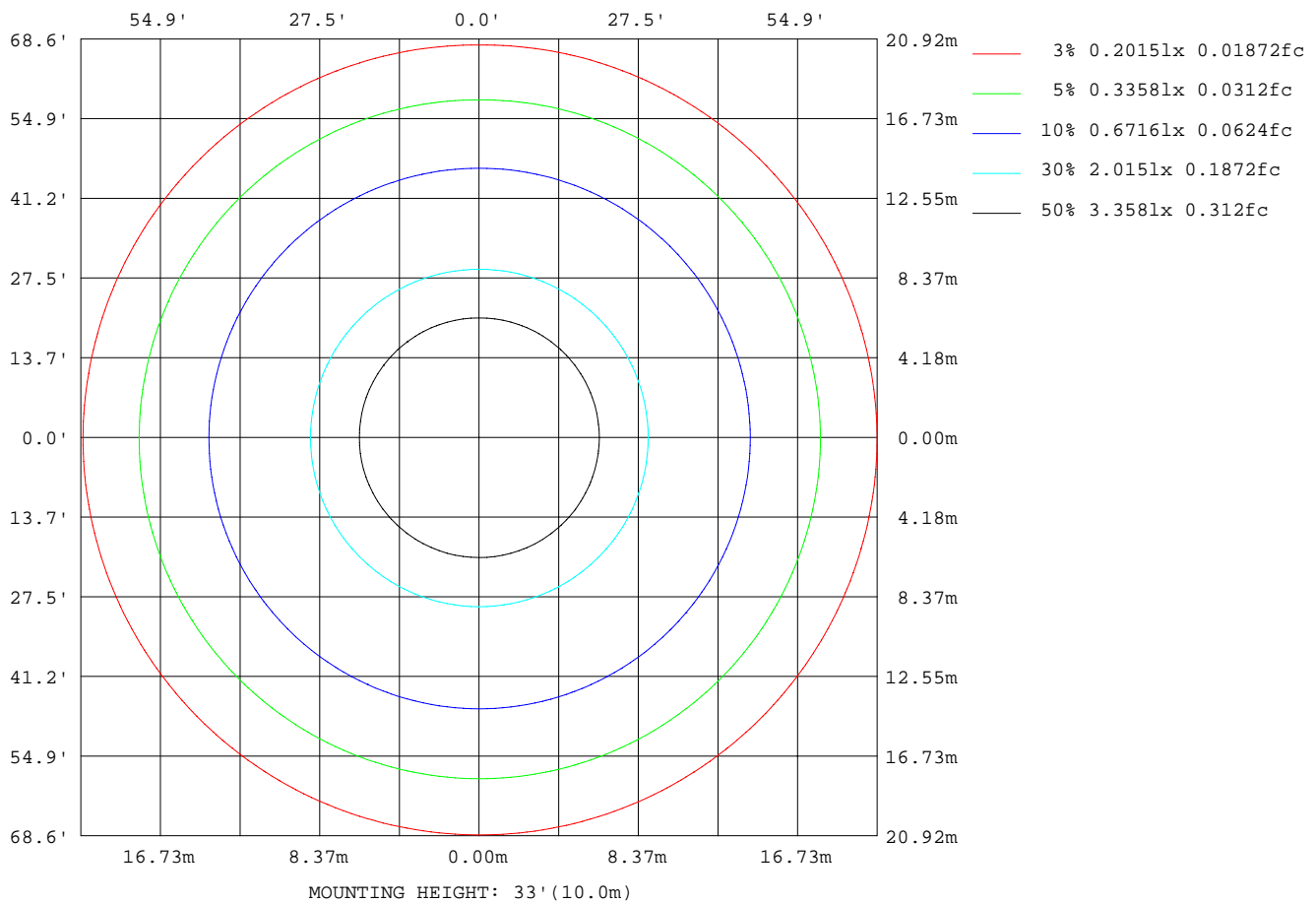
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

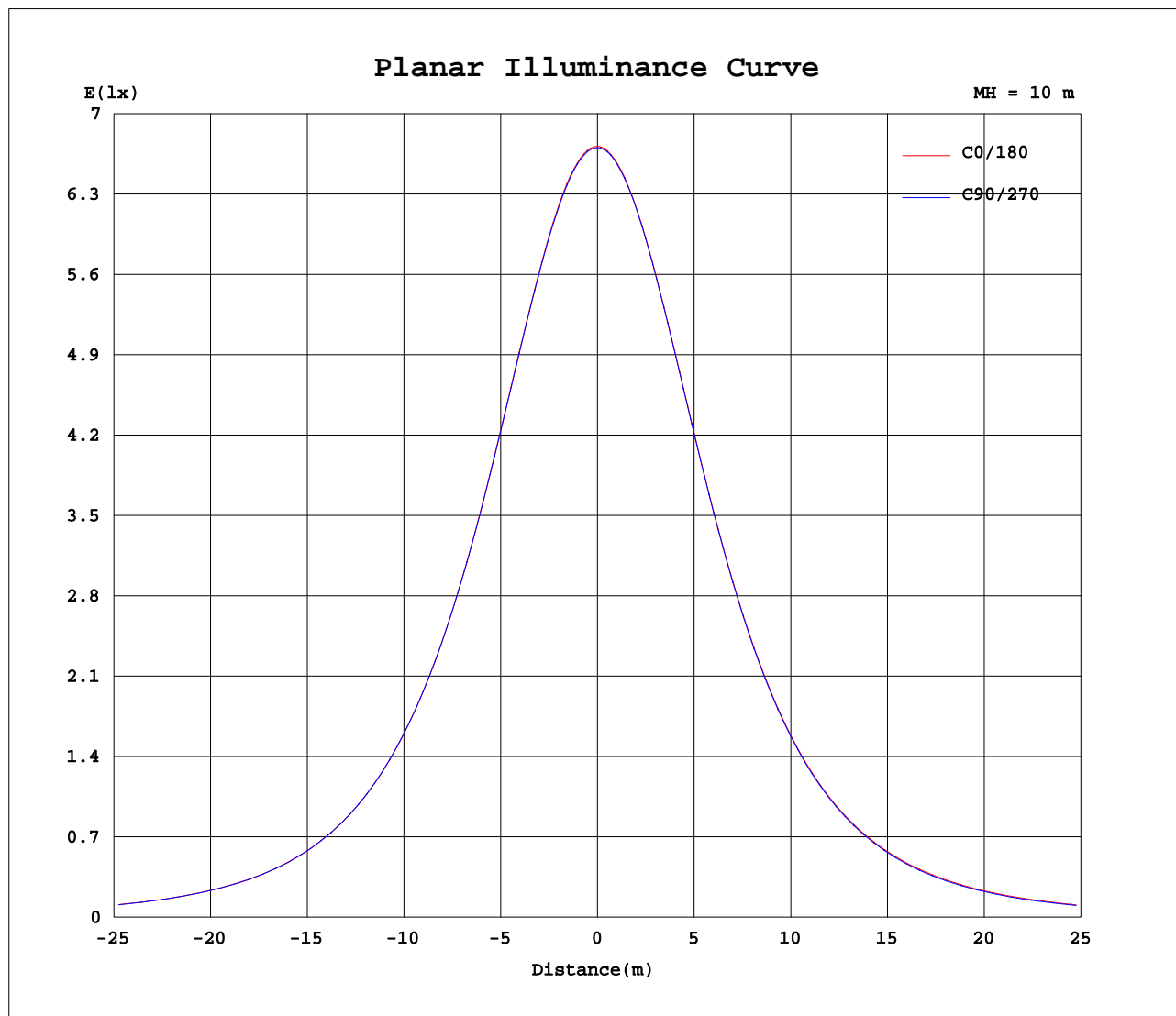
AvgL	cd/m2
L_0~180(65)av	5737
L_0~180(75)av	5093
L_0~180(85)av	3983
L_90~270(65)av	5613
L_90~270(75)av	4810
L_90~270(85)av	3418
L_45(65)av	5656
L_45(75)av	4911
L_45(85)av	3619

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:0.2290A P:25.60W PF:0.9310 Lamp Flux:1932.24x1 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	672	670	672	670															
5	669	668	668	667															
10	661	659	659	659															
15	647	645	645	644															
20	627	626	624	624															
25	602	601	599	598															
30	572	571	568	567															
35	536	536	532	531															
40	497	496	492	490															
45	452	453	448	445															
50	405	405	400	397															
55	354	354	349	345															
60	300	299	296	289															
65	245	243	240	232															
70	189	186	184	174															
75	134	131	130	118															
80	82.2	79.7	78.7	67.5															
85	36.2	35.1	33.2	24.4															
90	0.30	2.85	0.24	0.26															
95	0.20	0.29	0.33	0.28															
100	0.30	0.40	0.45	0.39															
105	0.41	0.53	0.60	0.56															
110	0.53	0.69	0.76	0.77															
115	0.68	0.86	0.92	0.98															
120	0.82	1.03	1.08	1.13															
125	0.97	1.15	1.23	1.27															
130	1.10	1.24	1.39	1.40															
135	1.24	1.35	1.51	1.45															
140	1.37	1.47	1.65	1.58															
145	1.49	1.58	1.76	1.70															
150	1.63	1.70	1.88	1.80															
155	1.77	1.83	1.98	1.91															
160	1.92	1.96	2.07	1.99															
165	2.06	2.08	2.16	2.07															
170	2.16	2.15	2.24	2.13															
175	2.21	2.18	2.24	2.17															
180	2.23	2.21	2.24	2.17															

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: