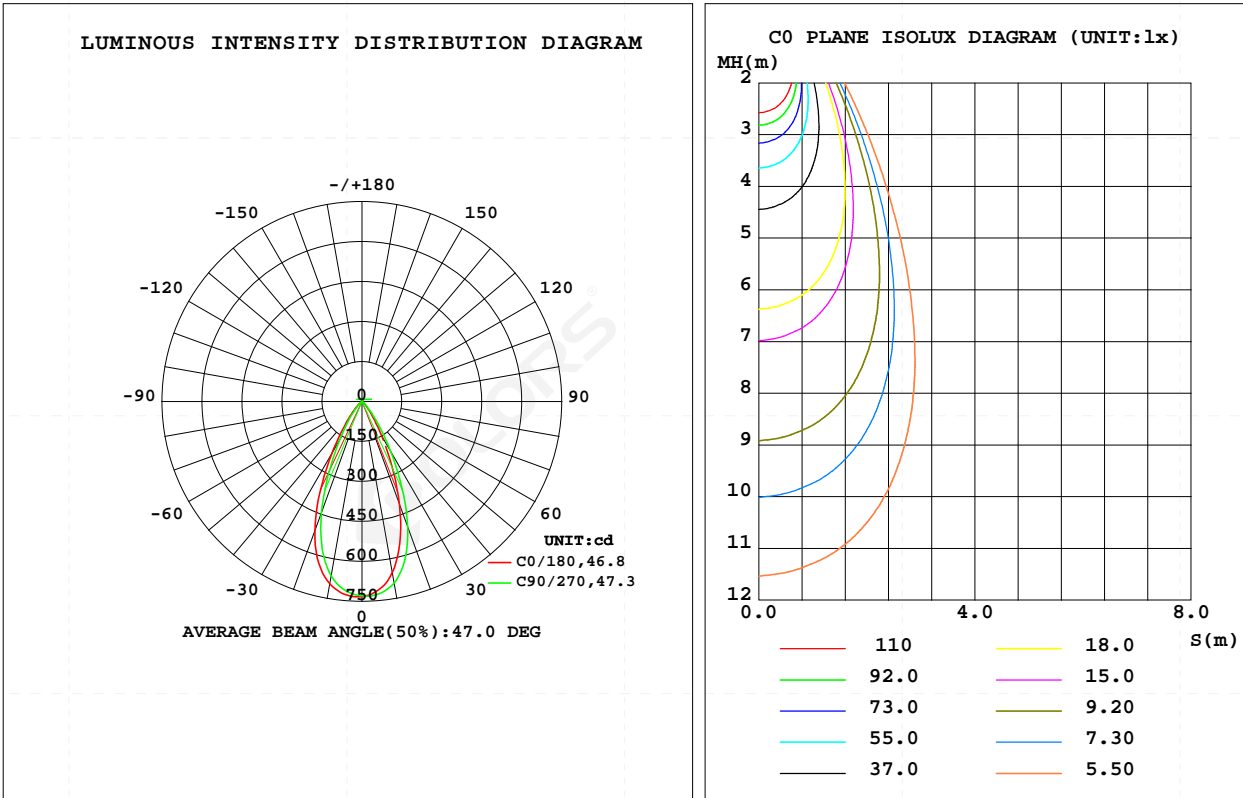


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.1280A P:6.100W PF:1.000 Freq:0Hz Lamp Flux:485.248x1 lm		
NAME:FD-HM40S5042(T)-N950B06	TYPE:	WEIGHT:
SPEC.:	DIM.: 40mm	SERIAL No.:
MFR.: COLORS	SUR.:40mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA      Eff: 79.55 lm/W			
MODEL		I <sub>max</sub> (cd)	733.4	S/MH(C0/180)	0.68
NOMINAL POWER(W)	6	LOR(%)	100.0	S/MH(C90/270)	0.71
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	485.25	h UP,DN(C0-180)	1.7,49.1
NOMINAL FLUX(lm)	485.248	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.5,47.7
LAMPS INSIDE	1	h up(%)	3.2	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	48	h down(%)	96.8	CIBSE SHR MAX	0.75



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

ZONAL FLUX DIAGRAM

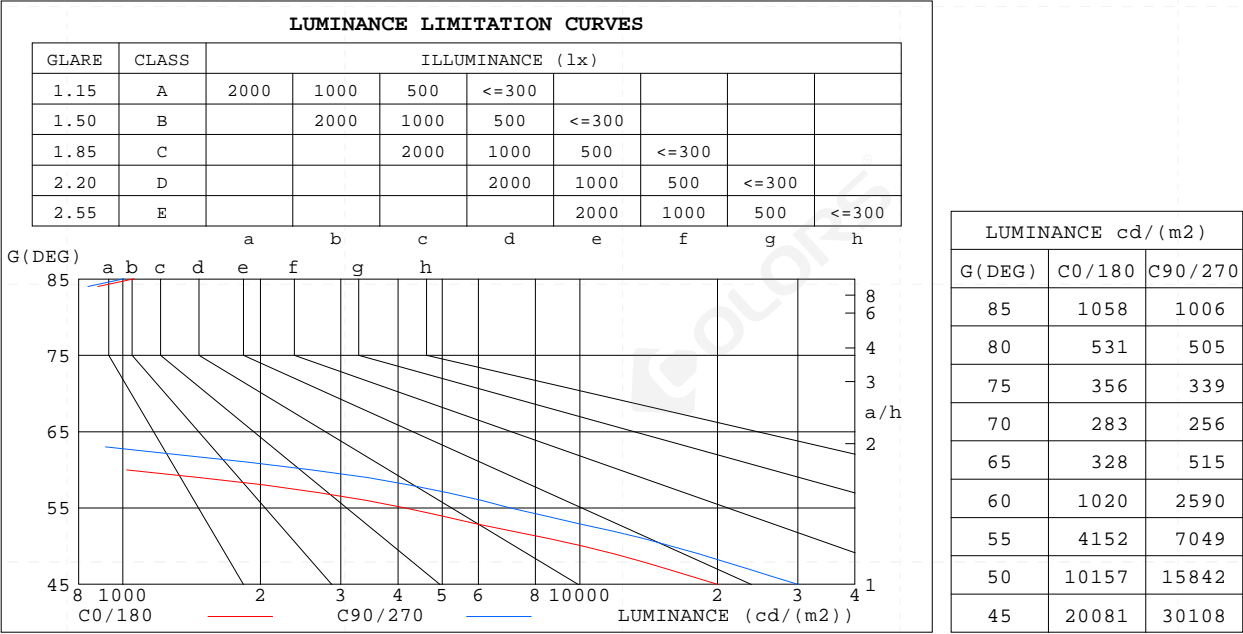
ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	652.9	668.8	692.6	706.8	694.7	687.0	664.9	638.8	0- 10	67.22	67.22	13.9,13.9
20	412.3	449.2	502.4	543.7	518.9	492.5	445.8	388.1	10- 20	162.8	230.1	47.4,47.4
30	147.3	171.4	214.8	254.2	230.0	209.7	172.3	132.9	20- 30	146.5	376.6	77.6,77.6
40	36.92	43.28	56.12	70.20	63.13	58.38	46.56	33.53	30- 40	66.34	442.9	91.3,91.3
50	8.487	9.742	13.24	17.26	16.13	15.37	11.92	7.792	40- 50	20.98	463.9	95.6,95.6
60	0.6628	0.8137	1.684	2.908	2.612	2.286	1.271	0.6146	50- 60	5.083	469.0	96.6,96.6
70	0.1259	0.0960	0.1140	0.0959	0.1857	0.1561	0.1379	0.1259	60- 70	0.4744	469.4	96.7,96.7
80	0.1199	0.1139	0.1139	0.1139	0.1199	0.1319	0.1379	0.1259	70- 80	0.1274	469.6	96.8,96.8
90	0.1199	0.1380	0.1139	0.1319	0.1319	0.1259	0.1440	0.1259	80- 90	0.1352	469.7	96.8,96.8
100	0.1679	0.2100	0.1858	0.1799	0.1680	0.1616	0.1859	0.1919	90-100	0.1610	469.9	96.8,96.8
110	0.3717	0.4141	0.3234	0.3064	0.2521	0.2875	0.3061	0.2758	100-110	0.2462	470.1	96.9,96.9
120	1.073	1.044	0.8574	0.7448	0.5949	0.6593	0.7621	0.8324	110-120	0.5098	470.6	97,97
130	2.848	2.706	2.378	2.022	1.554	1.702	1.987	2.188	120-130	1.253	471.9	97.2,97.2
140	5.406	5.195	4.874	4.373	3.476	3.699	4.117	4.350	130-140	2.498	474.4	97.8,97.8
150	7.915	7.769	7.471	7.078	6.069	6.163	6.593	6.679	140-150	3.558	477.9	98.5,98.5
160	9.516	9.536	9.437	9.230	8.289	8.242	8.444	8.447	150-160	3.681	481.6	99.3,99.3
170	10.16	10.24	10.25	10.24	9.619	9.581	9.552	9.455	160-170	2.663	484.3	99.8,99.8
180	10.45	10.64	10.54	10.54	10.45	10.63	10.54	10.54	170-180	0.9698	485.2	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

LUMINANCE LIMITATION CURVES

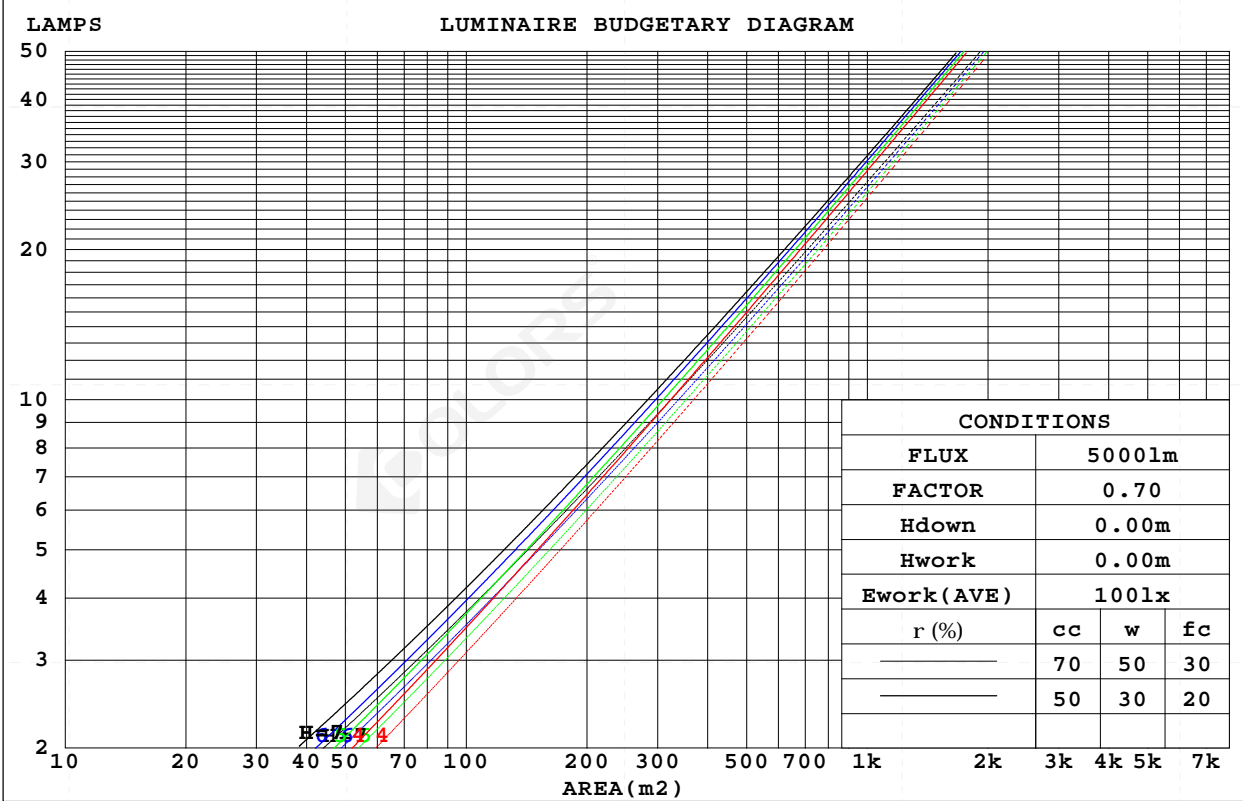


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio                      Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.10	1.08	1.06	1.08	1.06	1.04	1.03	1.02	1.00	.99	.98	.97	.95	.94	.93	.91
2.0	1.03	.99	.96	1.01	.98	.95	.98	.95	.92	.94	.92	.90	.91	.89	.88	.86
3.0	.97	.92	.88	.95	.91	.87	.92	.89	.86	.89	.86	.84	.87	.84	.82	.81
4.0	.91	.86	.82	.90	.85	.81	.87	.83	.80	.85	.81	.79	.83	.80	.77	.76
5.0	.86	.80	.76	.85	.80	.76	.83	.78	.75	.81	.77	.74	.79	.76	.73	.72
6.0	.81	.75	.71	.80	.75	.71	.78	.74	.70	.77	.73	.70	.75	.72	.69	.68
7.0	.77	.71	.67	.76	.71	.67	.74	.70	.66	.73	.69	.66	.72	.68	.65	.64
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.69	.65	.62	.68	.65	.62	.60
9.0	.69	.64	.60	.69	.63	.60	.67	.63	.59	.66	.62	.59	.65	.61	.59	.57
10.0	.66	.60	.57	.65	.60	.57	.64	.60	.56	.63	.59	.56	.62	.59	.56	.55



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

WEC AND CCEC

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.170	.097	.031	.162	.093	.029	.148	.085	.027	.135	.078	.025	.123	.071	.023	
2.0	.162	.089	.027	.155	.085	.026	.143	.079	.025	.132	.074	.023	.121	.069	.022	
3.0	.153	.082	.024	.148	.079	.024	.137	.074	.023	.127	.070	.021	.118	.066	.020	
4.0	.146	.076	.022	.141	.074	.022	.132	.070	.021	.123	.066	.020	.115	.063	.019	
5.0	.139	.071	.020	.134	.069	.020	.126	.066	.019	.119	.063	.019	.112	.060	.018	
6.0	.132	.066	.019	.128	.065	.019	.121	.062	.018	.115	.060	.017	.108	.057	.017	
7.0	.126	.062	.018	.123	.061	.017	.116	.059	.017	.110	.057	.016	.105	.054	.016	
8.0	.121	.059	.017	.118	.058	.016	.112	.056	.016	.107	.054	.016	.101	.052	.015	
9.0	.116	.056	.016	.113	.055	.015	.108	.053	.015	.103	.052	.015	.098	.050	.014	
10.0	.111	.053	.015	.109	.052	.015	.104	.051	.014	.099	.049	.014	.095	.048	.014	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.215	.215	.215	.184	.184	.184	.125	.125	.125	.072	.072	.072	.023	.023	.023	
1.0	.195	.182	.170	.167	.156	.146	.114	.107	.101	.066	.062	.059	.021	.020	.019	
2.0	.180	.157	.139	.154	.135	.120	.105	.094	.084	.061	.054	.049	.020	.018	.016	
3.0	.167	.138	.116	.143	.119	.100	.098	.083	.070	.057	.048	.041	.018	.016	.014	
4.0	.156	.124	.099	.134	.107	.086	.092	.074	.060	.053	.044	.036	.017	.014	.012	
5.0	.147	.112	.086	.127	.097	.075	.087	.068	.053	.051	.040	.031	.016	.013	.010	
6.0	.140	.103	.076	.120	.089	.066	.083	.062	.047	.048	.037	.028	.016	.012	.009	
7.0	.133	.095	.068	.115	.082	.060	.079	.058	.042	.046	.034	.025	.015	.011	.008	
8.0	.127	.089	.062	.110	.077	.054	.076	.054	.039	.044	.032	.023	.014	.010	.008	
9.0	.122	.084	.057	.105	.073	.050	.073	.051	.036	.043	.030	.021	.014	.010	.007	
10.0	.118	.079	.053	.102	.069	.047	.070	.048	.033	.041	.029	.020	.013	.009	.007	

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

UGR(Unified Glare Rating) Table

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	20.0	19.4	20.2	20.4	20.9	21.8	21.2	22.0	22.2
3H	19.0	19.8	19.3	20.0	20.3	20.7	21.5	21.0	21.8	22.0
4H	18.9	19.6	19.2	19.9	20.2	20.6	21.4	20.9	21.6	21.9
6H	18.8	19.5	19.1	19.8	20.1	20.5	21.2	20.9	21.5	21.8
8H	18.7	19.4	19.1	19.7	20.0	20.5	21.1	20.8	21.5	21.8
12H	18.7	19.3	19.1	19.7	20.0	20.4	21.1	20.8	21.4	21.7
4H 2H	18.9	19.6	19.2	19.9	20.2	20.6	21.4	20.9	21.6	21.9
3H	18.7	19.3	19.1	19.7	20.0	20.4	21.1	20.8	21.4	21.7
4H	18.6	19.2	19.0	19.5	19.9	20.3	20.9	20.7	21.3	21.6
6H	18.5	19.0	18.9	19.4	19.8	20.2	20.7	20.7	21.1	21.5
8H	18.4	18.9	18.9	19.3	19.8	20.2	20.6	20.6	21.1	21.5
12H	18.4	18.8	18.8	19.2	19.7	20.1	20.5	20.6	21.0	21.4
8H 4H	18.4	18.9	18.9	19.3	19.7	20.2	20.6	20.6	21.0	21.5
6H	18.3	18.7	18.8	19.2	19.6	20.1	20.4	20.5	20.9	21.4
8H	18.3	18.6	18.8	19.1	19.6	20.0	20.3	20.5	20.8	21.3
12H	18.2	18.5	18.7	19.0	19.5	19.9	20.2	20.5	20.7	21.3
12H 4H	18.4	18.8	18.8	19.2	19.7	20.1	20.5	20.6	21.0	21.4
6H	18.3	18.6	18.8	19.1	19.6	20.0	20.3	20.5	20.8	21.3
8H	18.2	18.5	18.7	19.0	19.5	19.9	20.2	20.5	20.7	21.3
Variations with the observer position at spacings:										
S = 1.0H		+ 2.8 / -13.1					+ 3.8 / -12.1			
1.5H		+ 4.6 / - 9.1					+ 5.6 / - 9.7			
2.0H		+ 6.1 / -14.2					+ 6.8 / -15.9			

CIE Pub.117, 485.2 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.5)

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

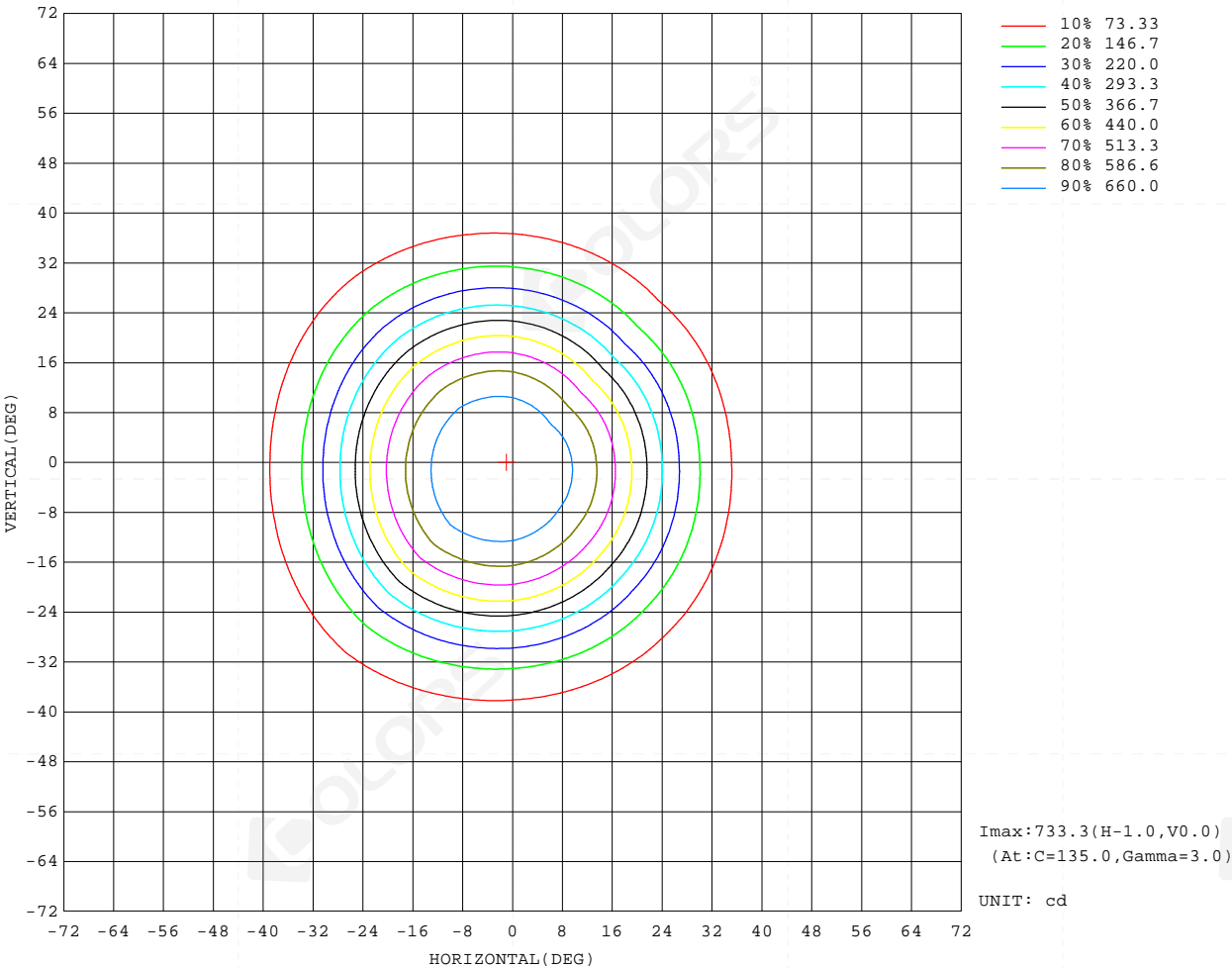
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	85	79	76	84	79	76	72
0.80	94	88	84	93	87	84	91	86	83	79
1.00	98	92	89	97	92	88	95	91	88	83
1.25	102	97	93	101	96	93	99	95	92	87
1.50	105	100	97	103	99	96	101	97	95	90
2.00	108	103	100	106	102	99	103	100	97	91
2.50	109	105	102	107	104	101	104	101	99	92
3.00	111	107	105	109	106	103	105	103	101	93
4.00	113	110	108	111	108	106	106	105	103	95
5.00	114	112	110	112	110	108	107	106	104	96
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

ISOCANDELA DIAGRAM

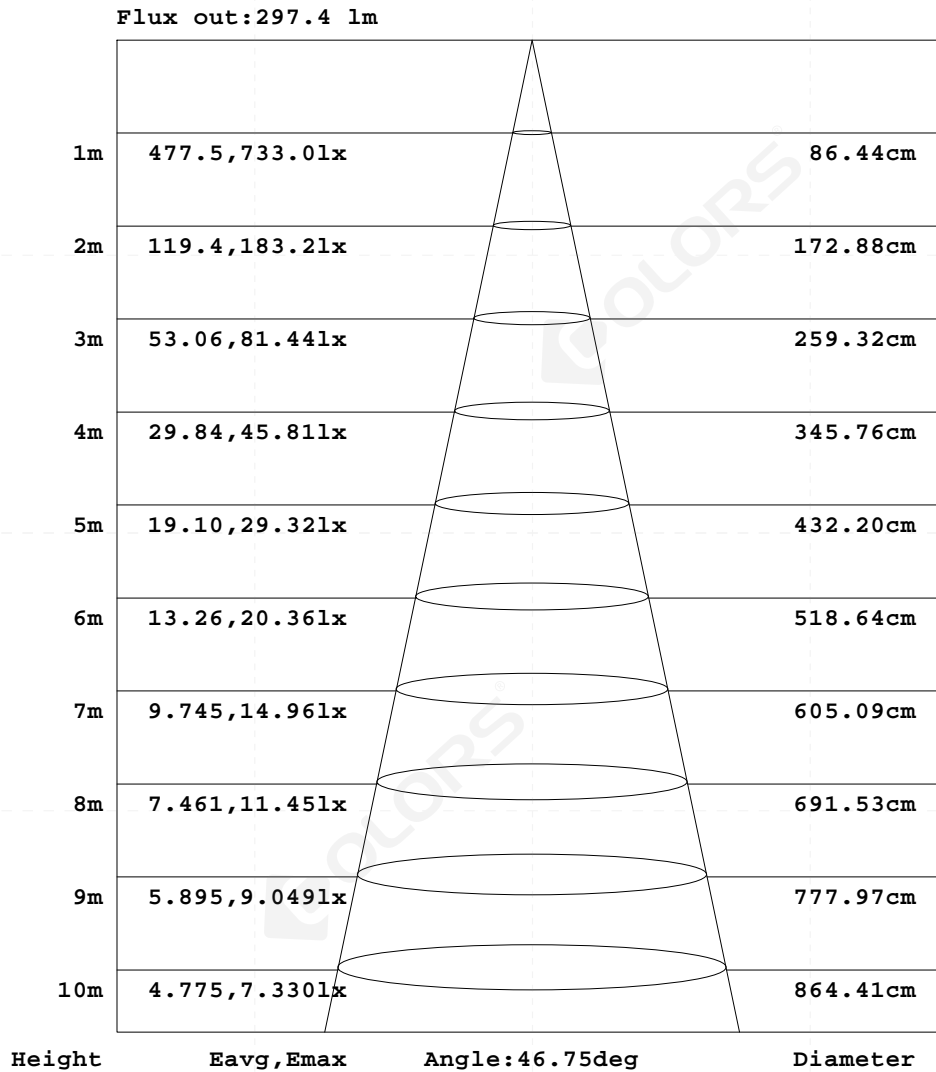


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JYH  
Test Date: 2024-04-22

Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.375m [K=1.0000]  
Remarks:



## AAI Figure

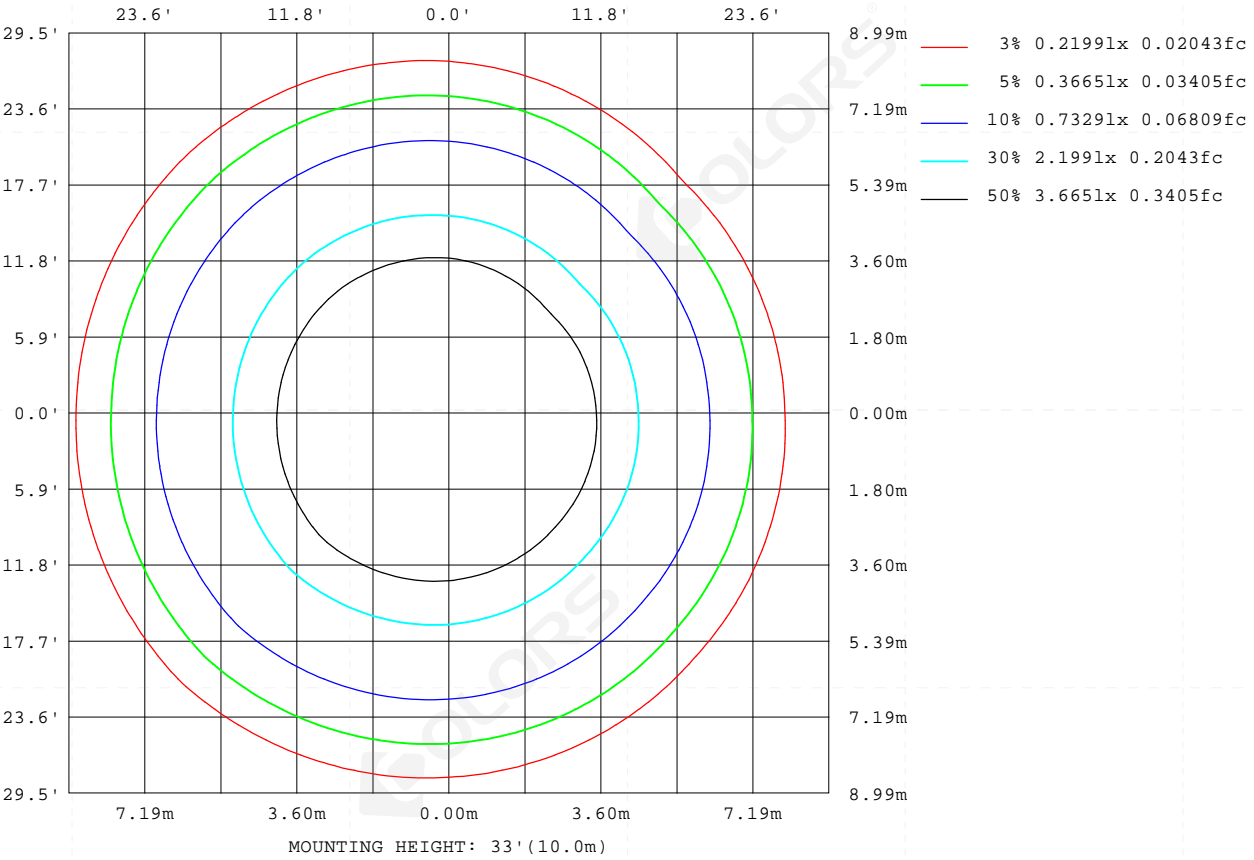


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JYH  
Test Date: 2024-04-22

Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 10.375m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:48.00V I:0.1280A P:6.100W PF:1.000 Freq:0Hz Lamp Flux:485.248x1 lm		
NAME: TLS-MT20S42(T)-06905050-NBB	TYPE:	WEIGHT:
SPEC.:	DIM.: 40mm	SERIAL No.:
MFR.: COLORS	SUR.:40mm	Shielding Angle:

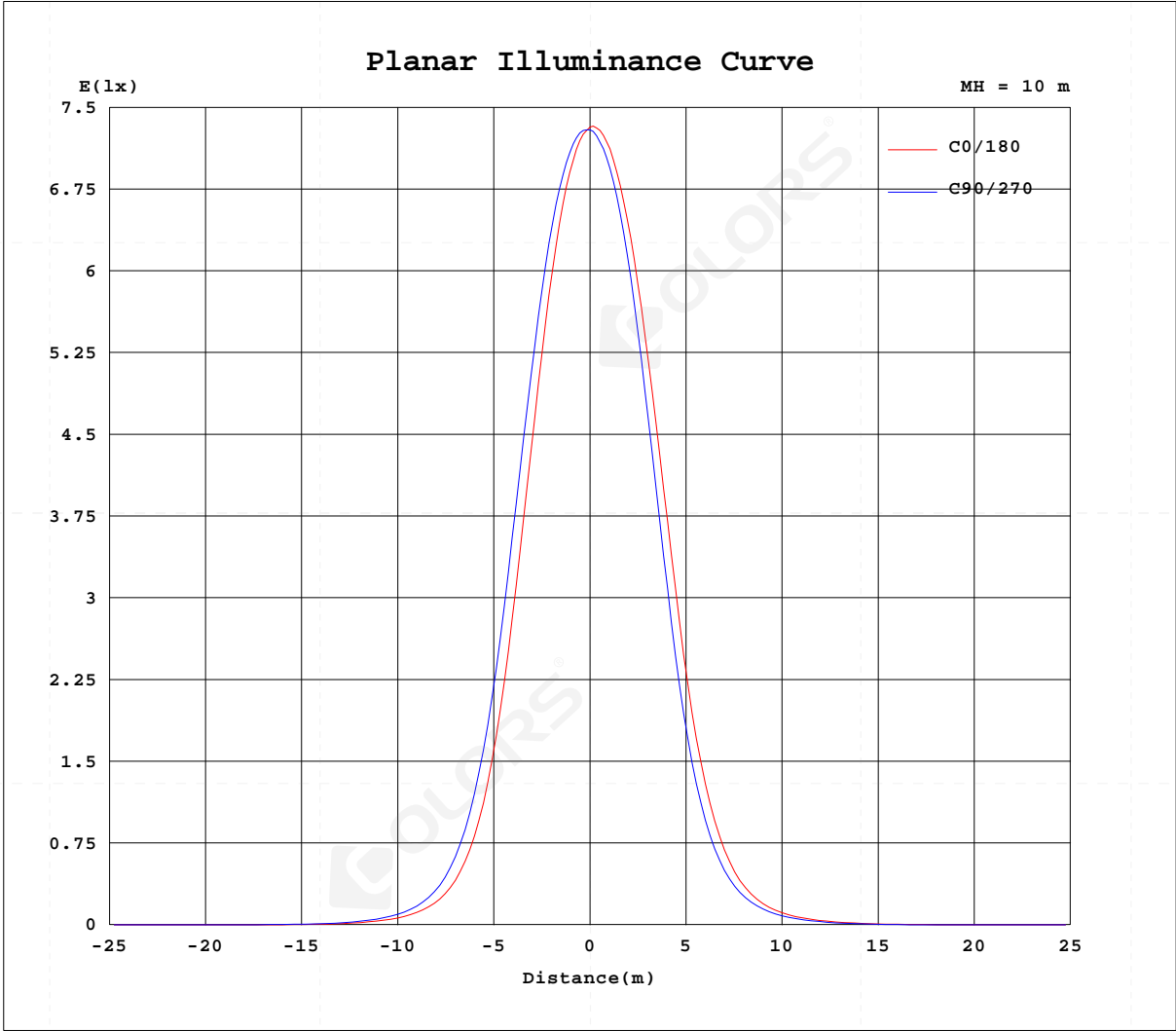
AvgL	cd/m2
L_0~180(65)av	589
L_0~180(75)av	356
L_0~180(85)av	1085
L_90~270(65)av	427
L_90~270(75)av	374
L_90~270(85)av	1111
L_45(65)av	551
L_45(75)av	343
L_45(85)av	1072

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	732	730	730	729	732	730	730	729										
5	710	716	725	731	727	722	712	701										
10	653	669	693	707	695	687	665	639										
15	551	579	619	647	628	612	576	529										
20	412	449	502	544	519	493	446	388										
25	265	297	354	404	374	346	296	244										
30	147	171	215	254	230	210	172	133										
35	74.7	88.3	114	140	125	113	91.2	67.1										
40	36.9	43.3	56.1	70.2	63.1	58.4	46.6	33.5										
45	18.5	21.3	27.7	34.5	31.7	30.1	24.0	17.0										
50	8.49	9.74	13.2	17.3	16.1	15.4	11.9	7.79										
55	3.10	3.39	5.26	7.58	7.20	6.80	4.56	2.83										
60	0.66	0.81	1.68	2.91	2.61	2.29	1.27	0.61										
65	0.18	0.10	0.28	0.53	0.47	0.39	0.19	0.19										
70	0.13	0.10	0.11	0.10	0.19	0.16	0.14	0.13										
75	0.12	0.10	0.11	0.10	0.12	0.14	0.14	0.13										
80	0.12	0.11	0.11	0.11	0.12	0.13	0.14	0.13										
85	0.12	0.12	0.11	0.11	0.13	0.13	0.14	0.13										
90	0.12	0.14	0.11	0.13	0.13	0.13	0.14	0.13										
95	0.14	0.17	0.17	0.13	0.14	0.13	0.17	0.13										
100	0.17	0.21	0.19	0.18	0.17	0.16	0.19	0.19										
105	0.26	0.28	0.22	0.23	0.20	0.19	0.22	0.19										
110	0.37	0.41	0.32	0.31	0.25	0.29	0.31	0.28										
115	0.65	0.63	0.51	0.46	0.37	0.38	0.46	0.48										
120	1.07	1.04	0.86	0.74	0.59	0.66	0.76	0.83										
125	1.80	1.70	1.48	1.24	0.97	1.05	1.27	1.40										
130	2.85	2.71	2.38	2.02	1.55	1.70	1.99	2.19										
135	4.09	3.90	4.34	3.10	2.42	2.57	2.97	3.21										
140	5.41	5.19	4.87	4.37	3.48	3.70	4.12	4.35										
145	6.71	6.55	6.19	5.74	4.77	4.93	5.39	5.55										
150	7.91	7.77	7.47	7.08	6.07	6.16	6.59	6.68										
155	8.89	8.79	8.60	8.29	7.29	7.29	7.64	7.66										
160	9.52	9.54	9.44	9.23	8.29	8.24	8.44	8.45										
165	9.97	9.96	9.97	9.86	9.06	8.98	9.06	8.99										
170	10.2	10.2	10.2	10.2	9.62	9.58	9.55	9.46										
175	10.3	10.6	10.4	10.6	10.1	10.2	10.1	10.1										
180	10.5	10.6	10.5	10.5	10.5	10.6	10.5	10.5										

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:10.375m [K=1.0000]  
Remarks: