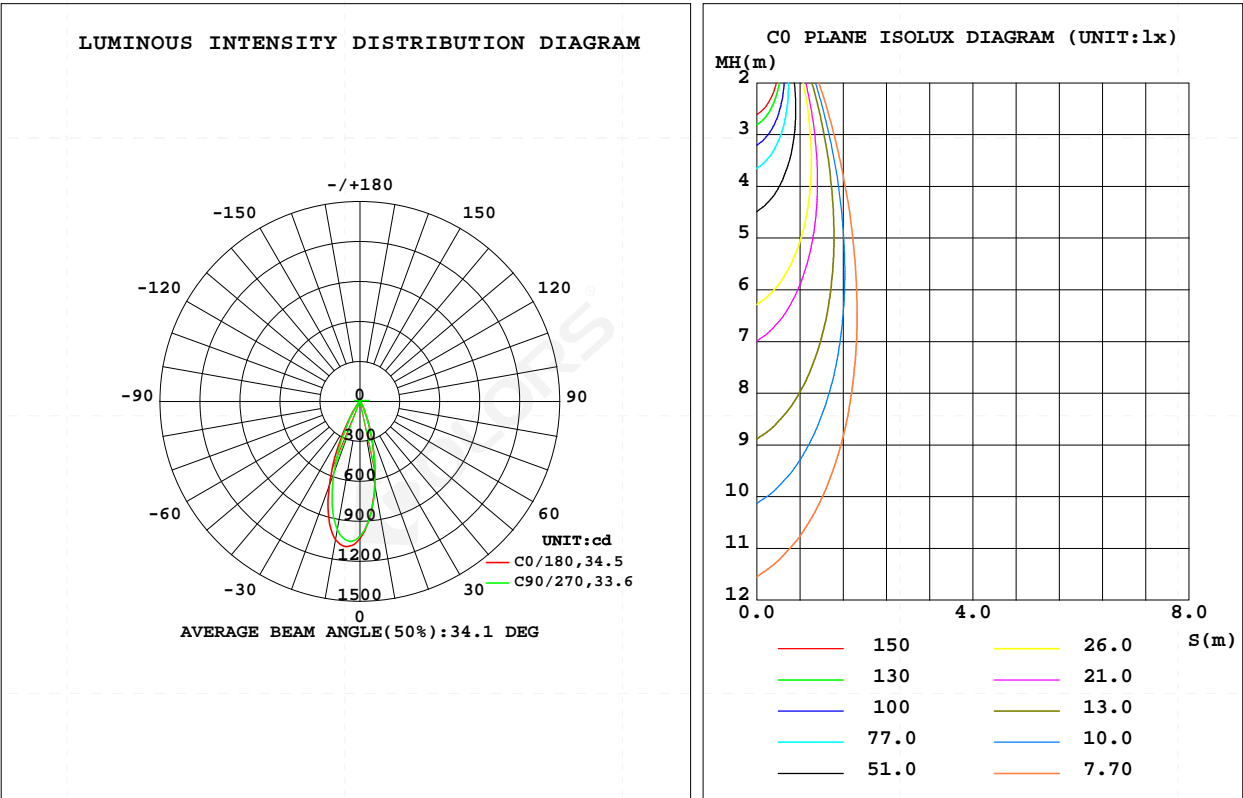


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.1280A P:6.140W PF:1.000 Freq:0Hz Lamp Flux:444.589x1 lm		
NAME:FD-HM40S3642(T)-N930B06	TYPE:	WEIGHT:
SPEC.:	DIM.: 40mm	SERIAL No.:
MFR.: COLORS	SUR.:40mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 72.41 lm/W			
MODEL		I <sub>max</sub> (cd)	1134	S/MH(C0/180)	0.43
NOMINAL POWER(W)	6	LOR(%)	100.0	S/MH(C90/270)	0.67
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	444.59	h UP,DN(C0-180)	2.0,33.1
NOMINAL FLUX(lm)	444.589	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.2,63.6
LAMPS INSIDE	1	h up(%)	3.3	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	48	h down(%)	96.7	CIBSE SHR MAX	0.60



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

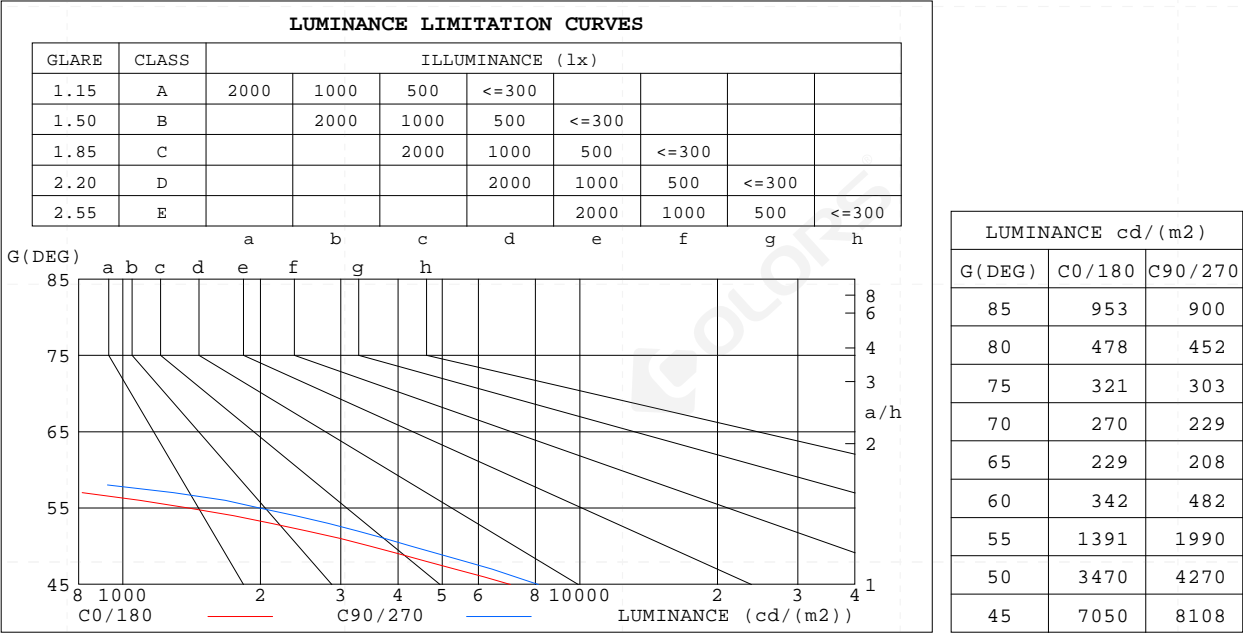
ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	643.2	568.0	650.0	875.4	1053	1114	978.6	766.9	0- 10	88.07	88.07	19.8,19.8
20	216.5	165.5	223.8	447.6	678.1	776.9	576.2	325.6	10- 20	173.2	261.3	58.8,58.8
30	46.81	36.36	49.39	111.9	210.7	284.9	169.4	76.08	20- 30	114.4	375.7	84.5,84.5
40	12.67	10.13	13.78	25.02	41.58	55.45	35.83	18.95	30- 40	38.12	413.8	93.1,93.1
50	2.900	2.256	3.568	7.936	12.42	15.48	11.30	5.377	40- 50	11.44	425.3	95.7,95.7
60	0.2221	0.0899	0.3135	1.848	3.711	4.702	3.017	0.7413	50- 60	3.753	429.0	96.5,96.5
70	0.1201	0.0899	0.1019	0.0899	0.3636	0.6990	0.1553	0.1199	60- 70	0.7984	429.8	96.7,96.7
80	0.1079	0.1079	0.1019	0.0959	0.1199	0.1019	0.1199	0.1199	70- 80	0.1345	429.9	96.7,96.7
90	0.1079	0.1379	0.1019	0.1140	0.1319	0.1019	0.1259	0.1199	80- 90	0.1231	430.1	96.7,96.7
100	0.1799	0.2339	0.1739	0.1680	0.1440	0.1019	0.1440	0.1199	90-100	0.1525	430.2	96.8,96.8
110	0.3536	0.4261	0.3473	0.2700	0.1921	0.1618	0.2040	0.1739	100-110	0.2180	430.4	96.8,96.8
120	0.9228	1.176	0.8390	0.5344	0.3299	0.2695	0.3478	0.4735	110-120	0.3922	430.8	96.9,96.9
130	2.937	3.426	2.637	1.579	0.7867	0.5757	0.8049	1.342	120-130	0.9749	431.8	97.1,97.1
140	6.138	6.807	5.866	4.128	2.172	1.732	2.267	3.510	130-140	2.172	434.0	97.6,97.6
150	8.814	9.391	8.856	7.425	4.863	4.274	5.046	6.511	140-150	3.420	437.4	98.4,98.4
160	9.331	9.563	9.990	9.708	7.918	7.485	8.097	8.802	150-160	3.676	441.1	99.2,99.2
170	8.719	9.121	9.744	9.942	9.445	9.468	9.630	9.402	160-170	2.610	443.7	99.8,99.8
180	9.486	9.888	9.768	9.876	9.474	9.864	9.792	9.882	170-180	0.9102	444.6	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

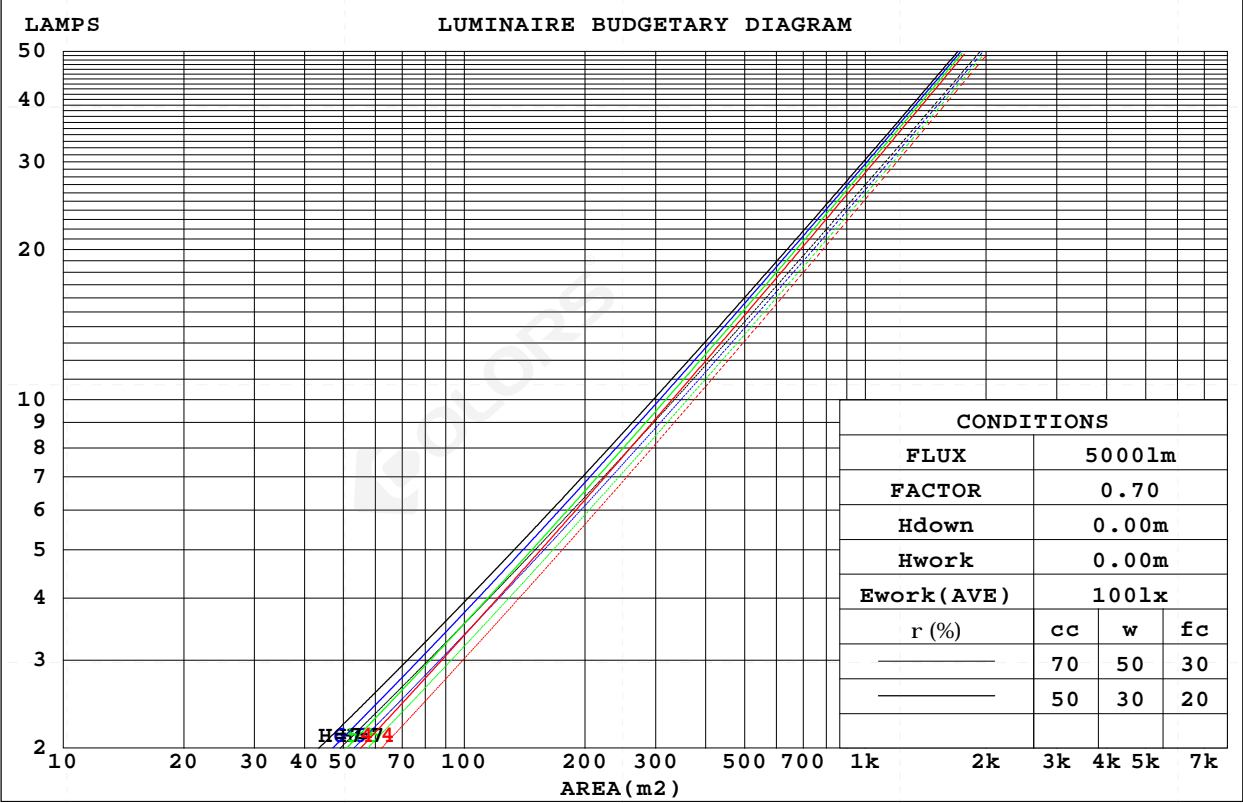


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

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	1.11	1.09	1.07	1.08	1.07	1.05	1.04	1.02	1.01	.90	.98	.97	.96	.95	.94	.92
2.0	1.04	1.01	.98	1.02	.99	.97	.99	.96	.94	.95	.93	.92	.92	.91	.89	.87
3.0	.99	.94	.91	.97	.93	.90	.94	.91	.88	.91	.89	.86	.89	.87	.85	.83
4.0	.93	.89	.85	.92	.88	.84	.90	.86	.83	.87	.84	.82	.85	.83	.81	.79
5.0	.89	.84	.80	.88	.83	.80	.86	.82	.79	.84	.80	.78	.82	.79	.77	.75
6.0	.85	.79	.76	.84	.79	.75	.82	.78	.75	.80	.77	.74	.79	.76	.73	.72
7.0	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.71	.76	.72	.70	.69
8.0	.77	.72	.69	.76	.72	.68	.75	.71	.68	.74	.70	.67	.73	.70	.67	.66
9.0	.74	.69	.66	.73	.69	.65	.72	.68	.65	.71	.67	.65	.70	.67	.64	.63
10.0	.71	.66	.63	.70	.66	.63	.69	.65	.62	.69	.65	.62	.68	.64	.62	.61



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
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r f c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.159	.091	.029	.152	.087	.027	.137	.079	.025	.124	.072	.023	.112	.065	.021	
2.0	.150	.082	.025	.144	.079	.024	.132	.073	.023	.120	.067	.021	.110	.062	.020	
3.0	.142	.075	.023	.136	.073	.022	.126	.068	.021	.116	.064	.019	.107	.059	.018	
4.0	.134	.070	.020	.129	.068	.020	.120	.064	.019	.112	.060	.018	.104	.056	.017	
5.0	.127	.065	.019	.123	.063	.018	.115	.060	.018	.108	.057	.017	.101	.054	.016	
6.0	.121	.061	.017	.117	.059	.017	.110	.056	.016	.104	.054	.016	.097	.051	.015	
7.0	.115	.057	.016	.112	.056	.016	.106	.053	.015	.100	.051	.015	.094	.049	.014	
8.0	.110	.054	.015	.107	.053	.015	.102	.051	.014	.096	.049	.014	.091	.047	.014	
9.0	.105	.051	.014	.103	.050	.014	.098	.048	.014	.093	.047	.013	.089	.045	.013	
10.0	.101	.048	.013	.099	.048	.013	.094	.046	.013	.090	.045	.013	.086	.043	.012	

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	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.195	.183	.171	.167	.157	.147	.114	.108	.102	.066	.062	.059	.021	.020	.019	
2.0	.179	.158	.140	.153	.136	.121	.105	.094	.085	.060	.055	.050	.019	.018	.016	
3.0	.165	.139	.118	.142	.120	.102	.097	.083	.072	.056	.049	.042	.018	.016	.014	
4.0	.154	.124	.101	.132	.107	.088	.091	.075	.062	.053	.044	.037	.017	.014	.012	
5.0	.144	.112	.088	.124	.097	.077	.085	.068	.054	.050	.040	.032	.016	.013	.011	
6.0	.136	.103	.078	.117	.089	.068	.081	.062	.048	.047	.037	.029	.015	.012	.009	
7.0	.130	.095	.070	.111	.082	.061	.077	.058	.043	.045	.034	.026	.014	.011	.009	
8.0	.124	.088	.064	.106	.077	.056	.074	.054	.040	.043	.032	.024	.014	.010	.008	
9.0	.118	.083	.059	.102	.072	.052	.071	.051	.037	.041	.030	.022	.013	.010	.007	
10.0	.114	.078	.055	.098	.068	.048	.068	.048	.034	.040	.028	.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	10.8	11.6	11.1	11.8	12.0	11.3	12.0	11.5	12.2	12.5
3H	10.7	11.4	11.0	11.6	11.9	11.1	11.8	11.4	12.1	12.3
4H	10.6	11.3	10.9	11.5	11.8	11.0	11.7	11.3	12.0	12.2
6H	10.5	11.2	10.9	11.4	11.7	10.9	11.6	11.3	11.9	12.2
8H	10.5	11.1	10.8	11.4	11.7	10.9	11.5	11.2	11.8	12.1
12H	10.4	11.0	10.8	11.4	11.7	10.8	11.4	11.2	11.8	12.1
4H 2H	10.6	11.3	10.9	11.5	11.8	11.0	11.7	11.3	11.9	12.2
3H	10.4	11.0	10.8	11.3	11.7	10.8	11.4	11.2	11.7	12.1
4H	10.3	10.9	10.7	11.2	11.6	10.7	11.3	11.1	11.6	12.0
6H	10.2	10.7	10.7	11.1	11.5	10.6	11.1	11.1	11.5	11.9
8H	10.2	10.6	10.6	11.0	11.5	10.6	11.0	11.0	11.4	11.9
12H	10.2	10.6	10.6	11.0	11.5	10.6	11.0	11.0	11.4	11.9
8H 4H	10.2	10.6	10.6	11.0	11.4	10.6	11.0	11.0	11.4	11.8
6H	10.1	10.4	10.6	10.9	11.4	10.5	10.8	11.0	11.3	11.8
8H	10.1	10.4	10.6	10.8	11.4	10.4	10.8	10.9	11.2	11.7
12H	10.1	10.3	10.6	10.8	11.4	10.4	10.7	11.0	11.2	11.7
12H 4H	10.1	10.5	10.6	10.9	11.4	10.5	10.9	11.0	11.3	11.8
6H	10.0	10.3	10.5	10.8	11.3	10.4	10.7	10.9	11.2	11.7
8H	10.0	10.3	10.5	10.8	11.3	10.4	10.7	10.9	11.2	11.7
Variations with the observer position at spacings:										
S = 1.0H	+ 3.4 / -10.1					+ 3.6 / -10.1				
1.5H	+ 5.2 / - 9.8					+ 5.2 / - 9.5				
2.0H	+ 6.7 / - 7.2					+ 6.8 / - 8.2				

CIE Pub.117, 444.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.8)

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:

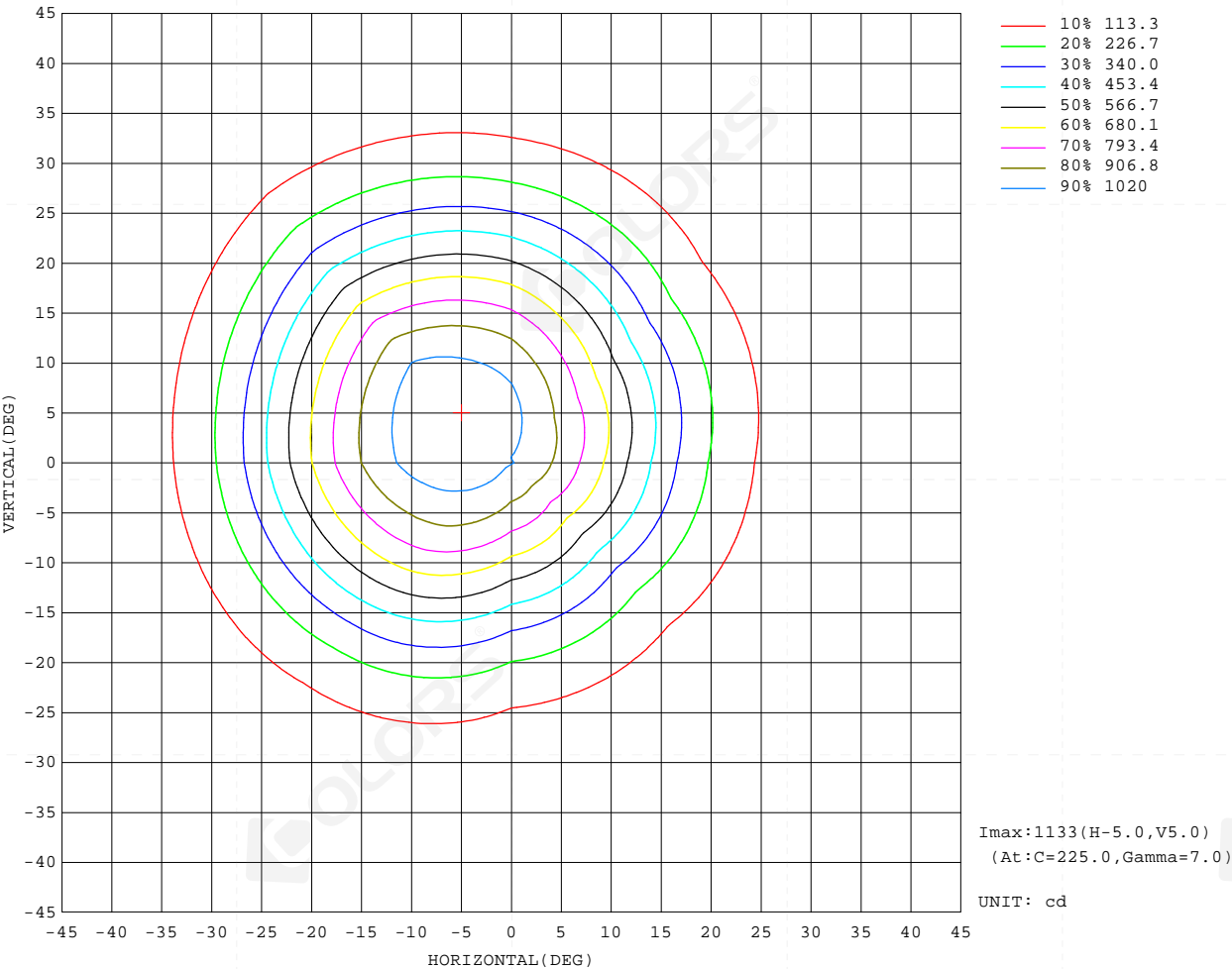
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	95	89	85	94	88	85	92	88	84	81
1.00	99	93	90	98	93	89	96	92	89	84
1.25	103	98	94	101	97	94	99	95	93	88
1.50	105	101	97	104	100	97	101	98	95	90
2.00	108	104	101	106	102	100	103	100	98	92
2.50	110	106	103	108	104	102	104	101	99	93
3.00	111	108	105	109	106	104	105	103	101	94
4.00	113	110	108	111	108	106	107	105	103	95
5.00	114	112	110	112	110	108	107	106	105	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

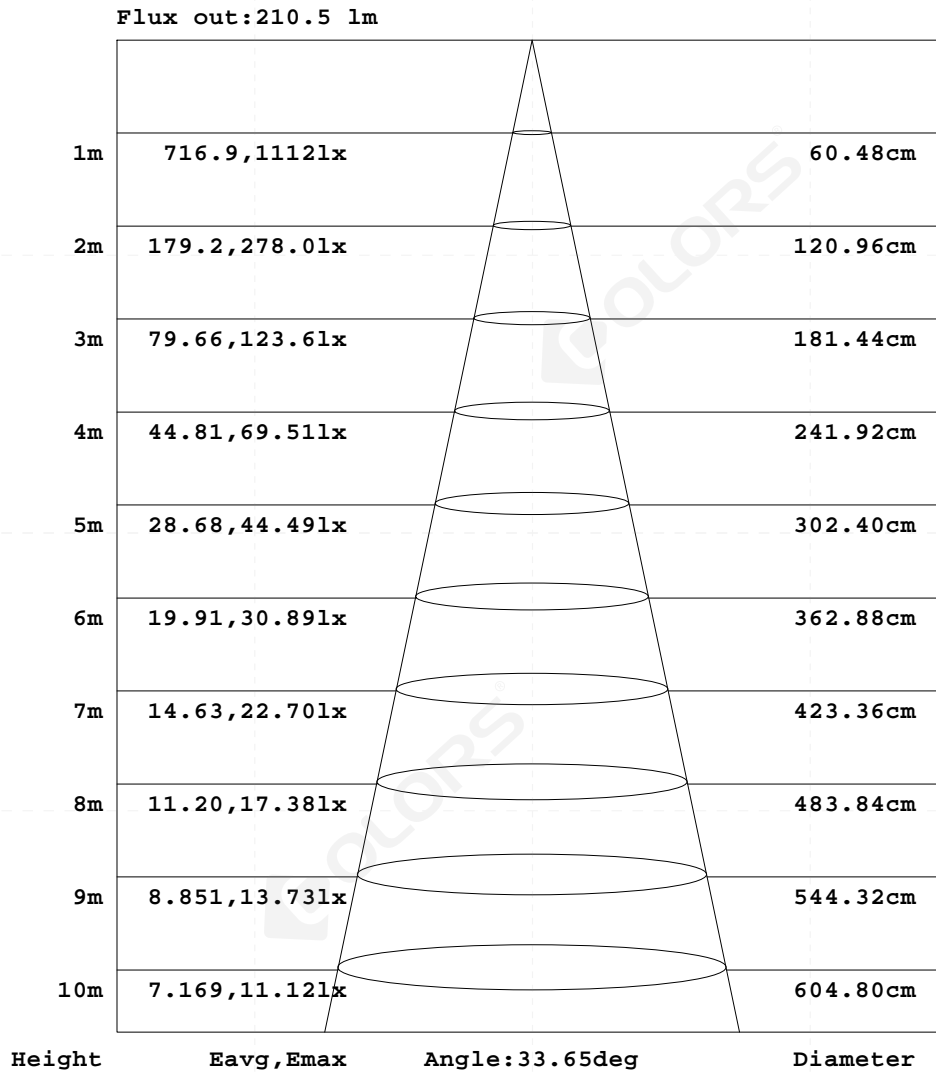


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-04-22

deg 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

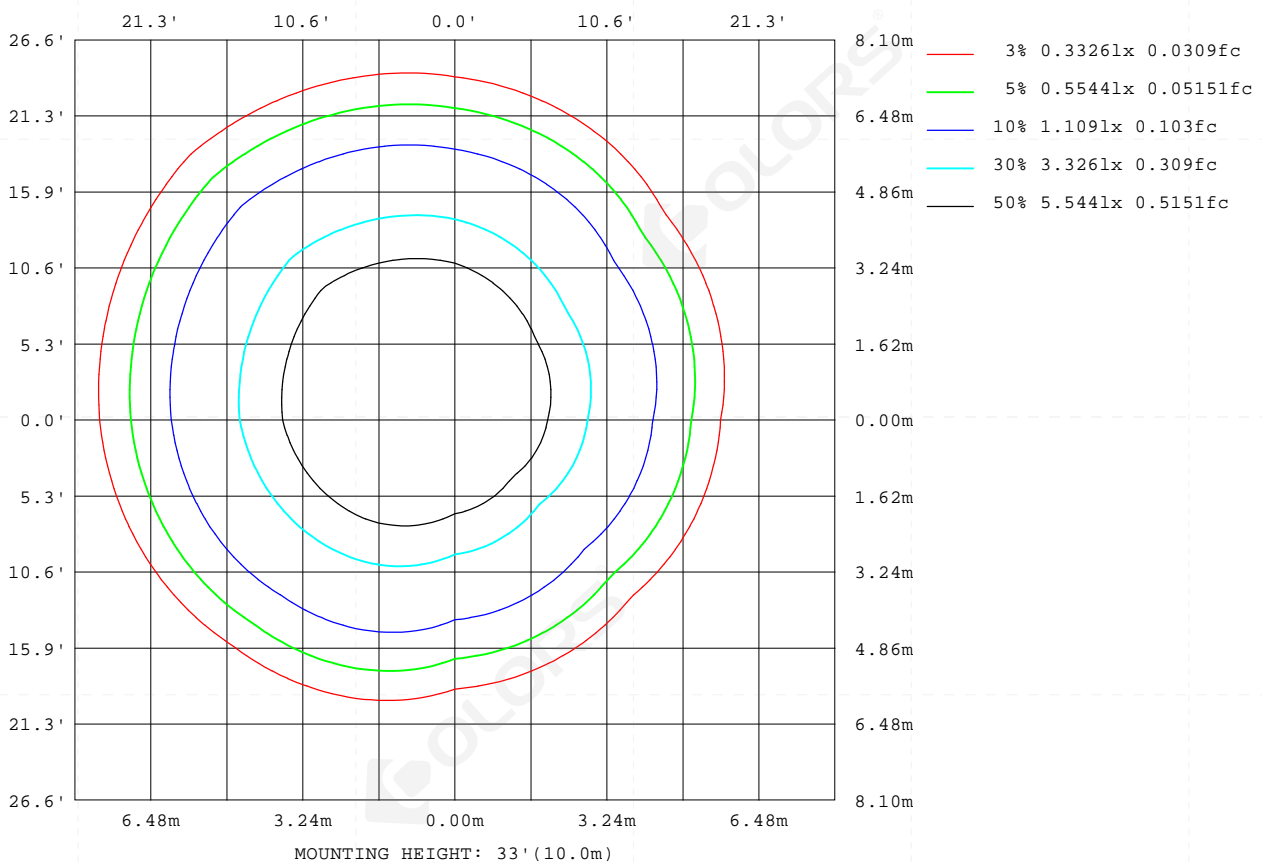


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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:

LED Avg.L Report

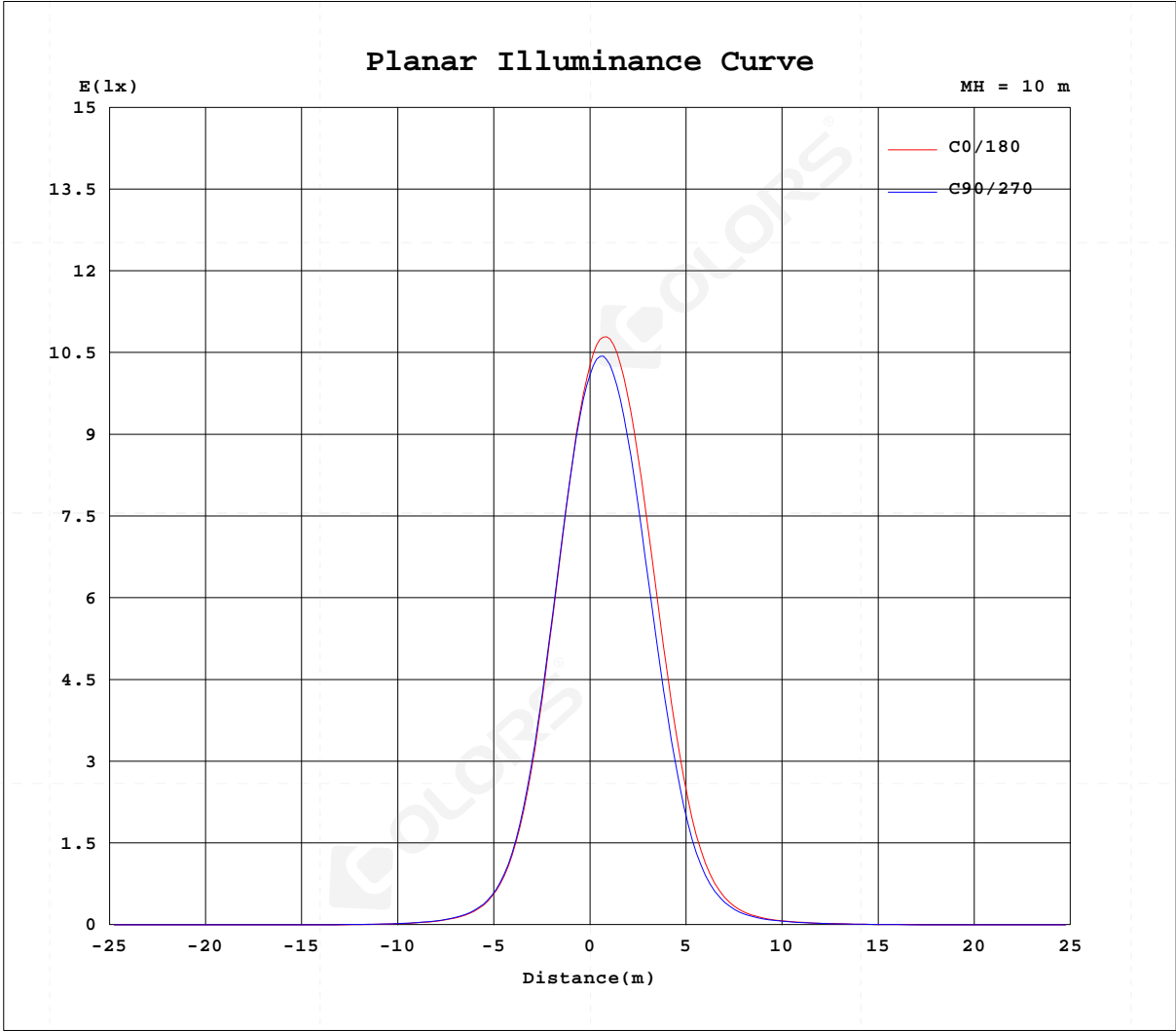
Test:U:48.00V I:0.1280A P:6.140W PF:1.000 Freq:0Hz Lamp Flux:444.589x1 lm		
NAME: TLS-MT20S42(T)-06903036-NBB	TYPE:	WEIGHT:
SPEC.:	DIM.: 40mm	SERIAL No.:
MFR.: COLORS	SUR.:40mm	Shielding Angle:

AvgL	cd/m2
L_0~180(65)av	1531
L_0~180(75)av	339
L_0~180(85)av	1006
L_90~270(65)av	1001
L_90~270(75)av	330
L_90~270(85)av	979
L_45(65)av	1312
L_45(75)av	343
L_45(85)av	979

Standard: GB/T 29293-2012

C Range: 0 - 360DEG	g Range: 0 - 180DEG
C Interval: 45.0DEG	g Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Temperature:25.3DEG	Humidity:65.0%
Operators:JYH	Test Distance:10.375m [K=1.0000]
Test Date:2024-04-22	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  
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	1027	1020	1009	1017	1027	1020	1009	1017										
5	870	820	868	994	1092	1123	1050	938										
10	643	568	650	875	1053	1114	979	767										
15	407	332	417	678	908	992	807	543										
20	217	166	224	448	678	777	576	326										
25	102	76.3	106	241	423	518	346	164										
30	46.8	36.4	49.4	112	211	285	169	76.1										
35	23.4	18.9	25.1	50.2	92.8	127	76.1	36.0										
40	12.7	10.1	13.8	25.0	41.6	55.4	35.8	18.9										
45	6.48	5.08	7.45	14.0	21.6	27.3	19.4	10.5										
50	2.90	2.26	3.57	7.94	12.4	15.5	11.3	5.38										
55	1.04	0.53	1.48	4.06	7.11	8.91	6.23	2.54										
60	0.22	0.09	0.31	1.85	3.71	4.70	3.02	0.74										
65	0.13	0.09	0.11	0.46	1.56	2.15	0.99	0.19										
70	0.12	0.09	0.10	0.09	0.36	0.70	0.16	0.12										
75	0.11	0.10	0.10	0.09	0.12	0.16	0.12	0.12										
80	0.11	0.11	0.10	0.10	0.12	0.10	0.12	0.12										
85	0.11	0.12	0.10	0.10	0.12	0.10	0.12	0.12										
90	0.11	0.14	0.10	0.11	0.13	0.10	0.13	0.12										
95	0.17	0.19	0.15	0.14	0.14	0.10	0.14	0.12										
100	0.18	0.23	0.17	0.17	0.14	0.10	0.14	0.12										
105	0.26	0.31	0.28	0.22	0.16	0.10	0.17	0.17										
110	0.35	0.43	0.35	0.27	0.19	0.16	0.20	0.17										
115	0.54	0.67	0.47	0.35	0.25	0.18	0.26	0.28										
120	0.92	1.18	0.84	0.53	0.33	0.27	0.35	0.47										
125	1.71	2.08	1.51	0.90	0.50	0.38	0.52	0.77										
130	2.94	3.43	2.64	1.58	0.79	0.58	0.80	1.34										
135	4.48	5.08	4.16	2.70	1.31	1.02	1.37	2.26										
140	6.14	6.81	5.87	4.13	2.17	1.73	2.27	3.51										
145	7.75	8.37	7.51	5.79	3.39	2.85	3.51	4.99										
150	8.81	9.39	8.86	7.42	4.86	4.27	5.05	6.51										
155	9.37	9.73	9.71	8.81	6.48	5.91	6.66	7.85										
160	9.33	9.56	9.99	9.71	7.92	7.48	8.10	8.80										
165	9.01	9.20	9.97	9.98	8.97	8.74	9.15	9.31										
170	8.72	9.12	9.74	9.94	9.44	9.47	9.63	9.40										
175	8.87	9.49	9.70	9.92	9.56	9.83	9.77	9.61										
180	9.49	9.89	9.77	9.88	9.47	9.86	9.79	9.88										

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: