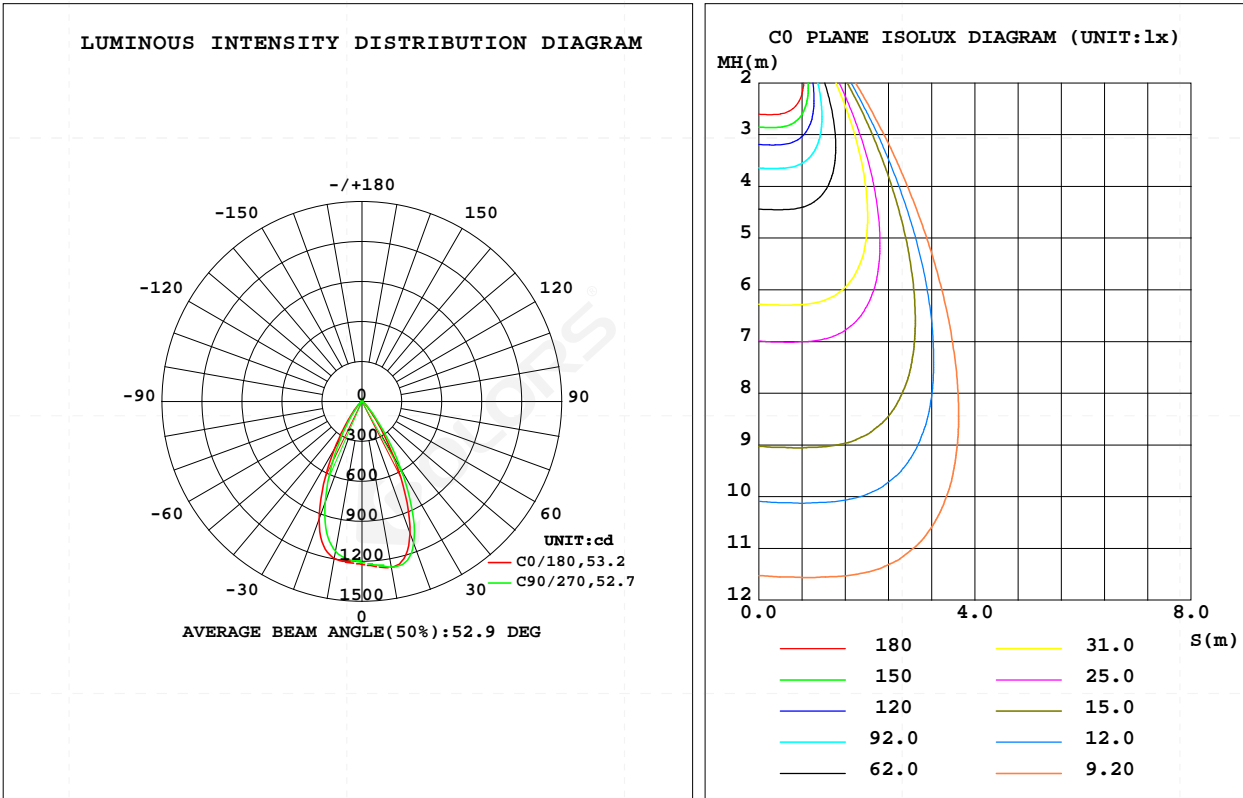


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.2310A P:11.08W PF:1.000 Freq:0Hz Lamp Flux:1018.66x1 lm		
NAME: FD-HM40S5052(T)-N938B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 91.94 lm/W
MODEL		I <sub>max</sub> (cd)	1269	S/MH(C0/180)		0.82
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)		0.74
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	1018.7	h UP,DN(C0-180)		1.7,55.4
NOMINAL FLUX(lm)	1018.66	CIE CLASS	DIRECT	h UP,DN(C180-360)		1.7,41.2
LAMPS INSIDE	1	h up(%)	3.4	CIBSE SHR NOM		0.75
TEST VOLTAGE(V)	48	h down(%)	96.6	CIBSE SHR MAX		0.80



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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

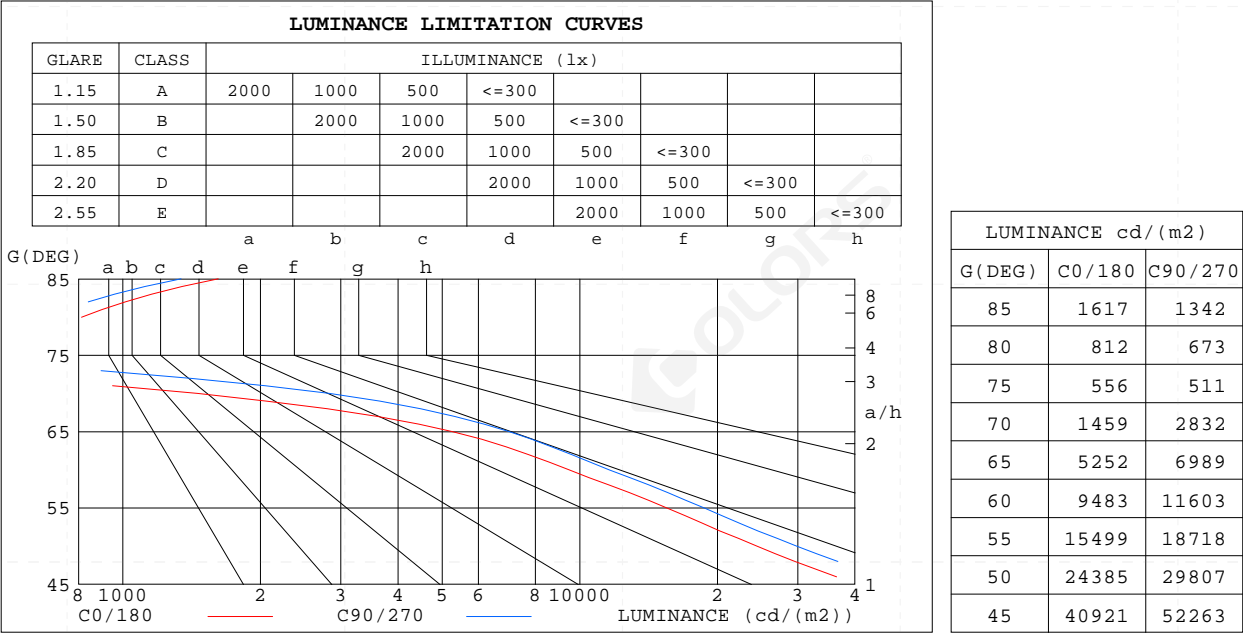
ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	1264	1265	1262	1260	1196	1146	1142	1138	0- 10	115.9	115.9	11.4,11.4
20	1055	1137	1136	1134	940.5	817.0	812.3	811.1	10- 20	316.3	432.1	42.4,42.4
30	471.4	582.2	582.5	582.1	419.7	328.4	321.3	323.9	20- 30	326.2	758.3	74.4,74.4
40	117.6	154.3	155.4	154.8	110.9	82.85	81.77	81.45	30- 40	156.5	914.9	89.8,89.8
50	31.35	38.26	38.32	38.19	30.36	24.14	23.85	23.87	40- 50	48.12	963.0	94.5,94.5
60	9.483	11.55	11.60	11.55	8.697	6.703	6.654	6.598	50- 60	16.19	979.2	96.1,96.1
70	0.9983	1.888	1.937	1.912	0.6941	0.3491	0.2938	0.3371	60- 70	4.329	983.5	96.5,96.5
80	0.2819	0.2339	0.2339	0.2279	0.2998	0.2878	0.2938	0.2878	70- 80	0.4114	983.9	96.6,96.6
90	0.2818	0.3058	0.2638	0.2999	0.3357	0.2878	0.3359	0.2878	80- 90	0.3074	984.2	96.6,96.6
100	0.4434	0.4441	0.3778	0.4260	0.4318	0.4136	0.4558	0.4314	90-100	0.3838	984.6	96.7,96.7
110	0.8814	0.7987	0.7312	0.7927	0.7083	0.7492	0.8103	0.7495	100-110	0.6077	985.2	96.7,96.7
120	2.324	1.914	1.865	1.891	1.765	2.074	2.114	2.061	110-120	1.254	986.5	96.8,96.8
130	5.651	4.746	4.660	4.694	4.447	5.123	5.157	5.137	120-130	2.952	989.4	97.1,97.1
140	10.38	9.224	9.110	9.144	9.006	9.964	9.985	9.947	130-140	5.494	994.9	97.7,97.7
150	15.60	14.40	14.28	14.27	14.57	15.35	15.35	15.30	140-150	7.621	1003	98.4,98.4
160	20.37	19.41	19.28	19.29	19.10	19.24	19.24	19.15	150-160	7.922	1010	99.2,99.2
170	23.94	23.17	22.98	23.03	22.73	22.31	22.31	22.21	160-170	5.952	1016	99.8,99.8
180	25.35	24.86	24.72	24.74	25.41	24.76	24.76	24.65	170-180	2.264	1019	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:2024-05-14

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

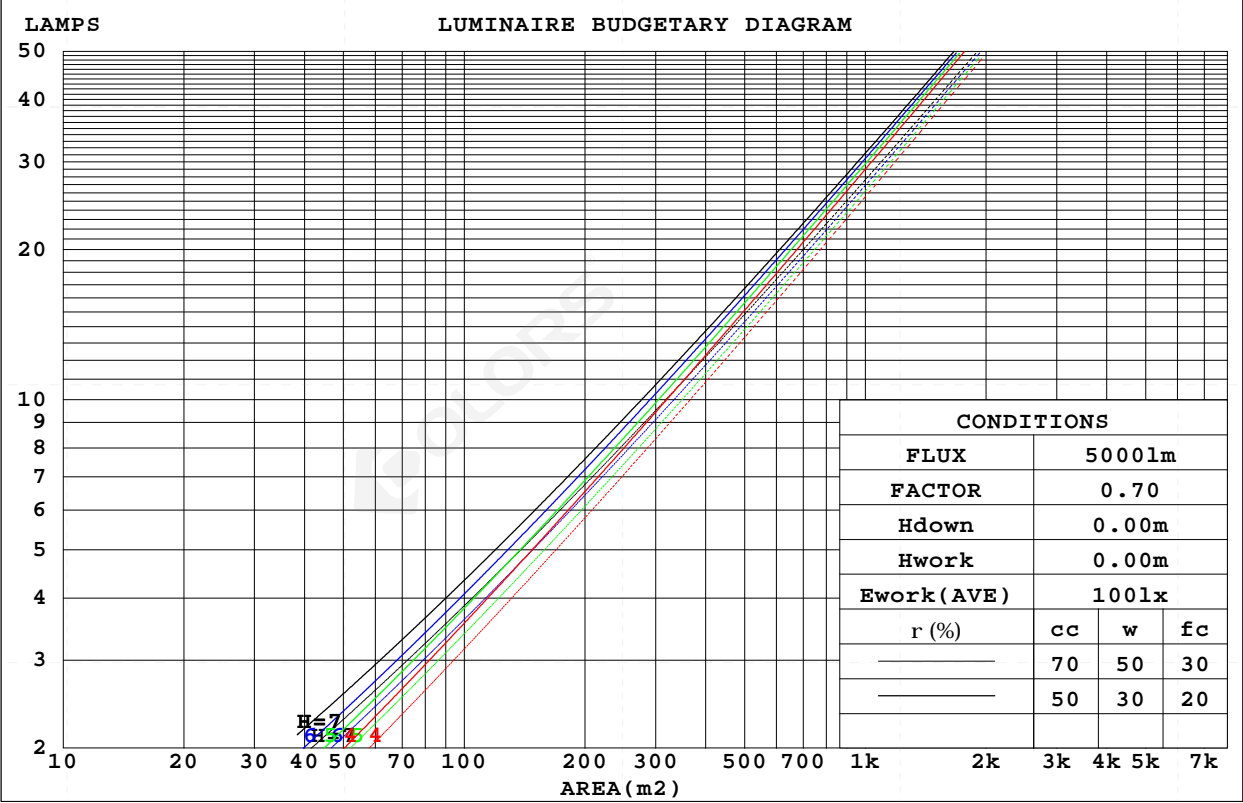


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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	1.05	1.08	1.05	1.03	1.03	1.01	.00	.99	.97	.96	.95	.94	.93	.91
2.0	1.03	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.91	.89	.90	.88	.87	.85
3.0	.96	.91	.87	.94	.90	.86	.91	.87	.84	.88	.85	.83	.86	.83	.81	.79
4.0	.90	.84	.80	.88	.83	.80	.86	.82	.78	.83	.80	.77	.81	.78	.76	.74
5.0	.84	.79	.74	.83	.78	.74	.81	.76	.73	.79	.75	.72	.77	.74	.71	.70
6.0	.79	.73	.69	.78	.73	.69	.76	.72	.68	.75	.71	.67	.73	.70	.67	.65
7.0	.75	.69	.65	.74	.68	.65	.72	.67	.64	.71	.67	.63	.69	.66	.63	.61
8.0	.71	.65	.61	.70	.64	.61	.69	.64	.60	.67	.63	.60	.66	.62	.59	.58
9.0	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.56	.63	.59	.56	.55
10.0	.63	.58	.54	.63	.58	.54	.62	.57	.54	.61	.56	.53	.60	.56	.53	.52



C Range: 0 - 360DEG

C Interval: 45.0DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JYH

Test Date:2024-05-14

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	.176	.100	.032	.168	.096	.030	.154	.088	.028	.140	.081	.026	.128	.074	.024	
2.0	.168	.092	.028	.161	.089	.027	.149	.083	.026	.138	.077	.024	.127	.072	.023	
3.0	.160	.085	.025	.154	.082	.025	.143	.078	.024	.133	.073	.022	.124	.069	.021	
4.0	.152	.079	.023	.147	.077	.023	.137	.073	.022	.129	.069	.021	.121	.066	.020	
5.0	.144	.074	.021	.140	.072	.021	.132	.069	.020	.124	.066	.019	.117	.063	.019	
6.0	.138	.069	.020	.134	.068	.019	.126	.065	.019	.120	.062	.018	.113	.060	.018	
7.0	.131	.065	.018	.128	.064	.018	.121	.061	.018	.115	.059	.017	.110	.057	.017	
8.0	.126	.061	.017	.123	.060	.017	.117	.058	.017	.111	.056	.016	.106	.054	.016	
9.0	.120	.058	.016	.118	.057	.016	.112	.056	.016	.107	.054	.015	.103	.052	.015	
10.0	.115	.055	.015	.113	.055	.015	.108	.053	.015	.104	.051	.015	.099	.050	.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	.216	.216	.216	.185	.185	.185	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.197	.183	.171	.169	.157	.147	.115	.108	.102	.066	.063	.059	.021	.020	.019	
2.0	.182	.159	.139	.156	.137	.120	.107	.094	.084	.062	.055	.049	.020	.018	.016	
3.0	.169	.140	.116	.145	.121	.101	.100	.084	.071	.058	.049	.042	.019	.016	.014	
4.0	.159	.125	.099	.137	.108	.086	.094	.075	.061	.054	.044	.036	.017	.014	.012	
5.0	.151	.114	.086	.129	.098	.075	.089	.069	.053	.052	.040	.032	.017	.013	.010	
6.0	.143	.104	.077	.123	.090	.067	.085	.063	.047	.049	.037	.028	.016	.012	.009	
7.0	.137	.097	.069	.118	.084	.060	.081	.059	.043	.047	.035	.025	.015	.011	.008	
8.0	.131	.091	.063	.113	.079	.055	.078	.055	.039	.045	.033	.023	.015	.011	.008	
9.0	.126	.086	.058	.108	.074	.051	.075	.052	.036	.044	.031	.022	.014	.010	.007	
10.0	.121	.081	.054	.105	.070	.047	.073	.050	.034	.042	.029	.020	.014	.010	.007	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:JYH  
 Test Date:2024-05-14

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	21.2	22.1	21.5	22.3	22.5	22.1	23.0	22.4	23.2	23.5
3H	21.0	21.8	21.3	22.1	22.4	22.0	22.8	22.3	23.0	23.3
4H	20.9	21.7	21.2	22.0	22.3	21.9	22.7	22.2	22.9	23.2
6H	20.8	21.6	21.2	21.9	22.2	21.8	22.5	22.1	22.8	23.1
8H	20.8	21.5	21.1	21.8	22.1	21.7	22.4	22.1	22.7	23.1
12H	20.7	21.4	21.1	21.7	22.1	21.7	22.3	22.0	22.7	23.0
4H 2H	21.0	21.7	21.3	22.0	22.3	21.9	22.7	22.2	22.9	23.2
3H	20.8	21.5	21.2	21.8	22.1	21.7	22.4	22.1	22.7	23.1
4H	20.7	21.3	21.1	21.7	22.0	21.6	22.2	22.0	22.6	23.0
6H	20.6	21.1	21.0	21.5	21.9	21.5	22.0	21.9	22.4	22.9
8H	20.5	21.0	21.0	21.4	21.9	21.5	22.0	21.9	22.4	22.8
12H	20.5	20.9	20.9	21.4	21.8	21.4	21.9	21.9	22.3	22.7
8H 4H	20.5	21.0	21.0	21.4	21.9	21.5	22.0	21.9	22.4	22.8
6H	20.4	20.8	20.9	21.3	21.8	21.4	21.8	21.8	22.2	22.7
8H	20.4	20.7	20.9	21.2	21.7	21.3	21.6	21.8	22.1	22.6
12H	20.3	20.6	20.8	21.1	21.6	21.2	21.5	21.8	22.0	22.6
12H 4H	20.5	20.9	20.9	21.4	21.8	21.4	21.9	21.9	22.3	22.7
6H	20.4	20.7	20.9	21.2	21.7	21.3	21.6	21.8	22.1	22.6
8H	20.3	20.6	20.8	21.1	21.6	21.2	21.5	21.8	22.0	22.6
Variations with the observer position at spacings:										
S = 1.0H		+ 2.5 / - 7.5					+ 3.1 / - 7.7			
1.5H		+ 4.2 / - 4.9					+ 5.0 / - 5.6			
2.0H		+ 4.3 / - 5.0					+ 4.9 / - 5.4			

CIE Pub.117, 1019 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.1)

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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:

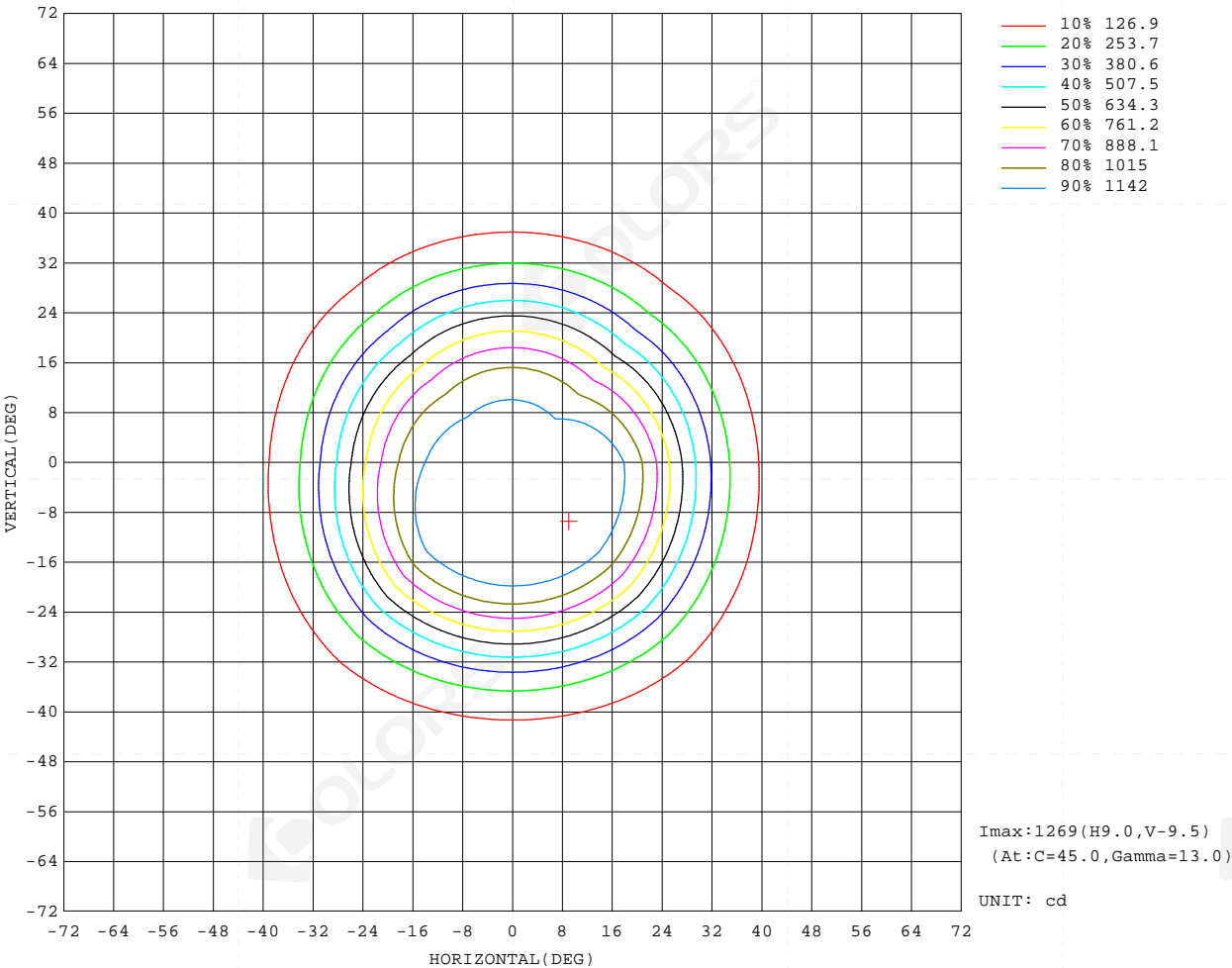
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	85	79	75	85	78	75	83	78	74	71
0.80	93	87	83	92	86	83	90	85	82	78
1.00	97	92	88	96	91	87	94	91	87	82
1.25	102	96	93	100	95	92	98	94	91	86
1.50	104	99	96	103	98	95	100	97	94	89
2.00	107	103	100	105	102	99	102	99	97	91
2.50	109	105	102	107	104	101	103	101	98	92
3.00	111	107	104	108	105	103	105	102	100	93
4.00	113	110	107	110	108	106	106	104	103	94
5.00	114	112	110	111	109	108	107	105	104	95
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:2024-05-14

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

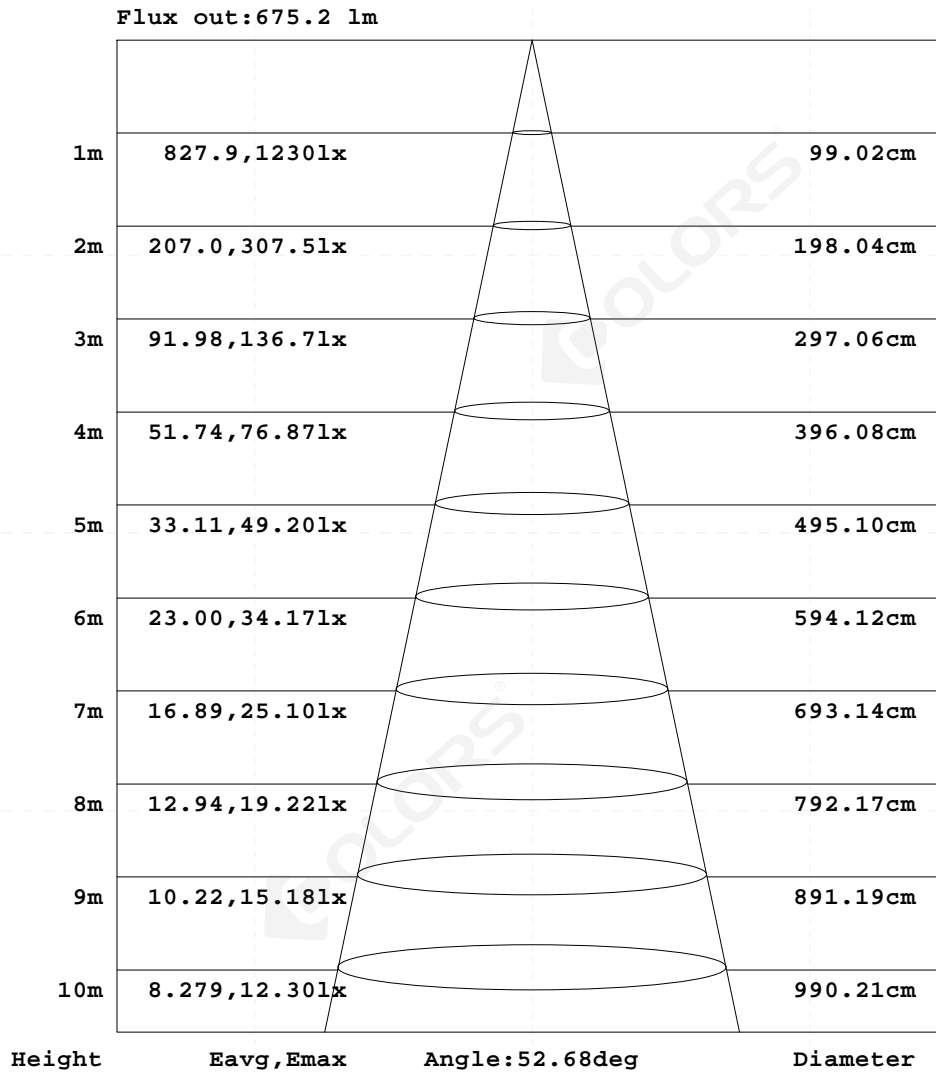


C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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

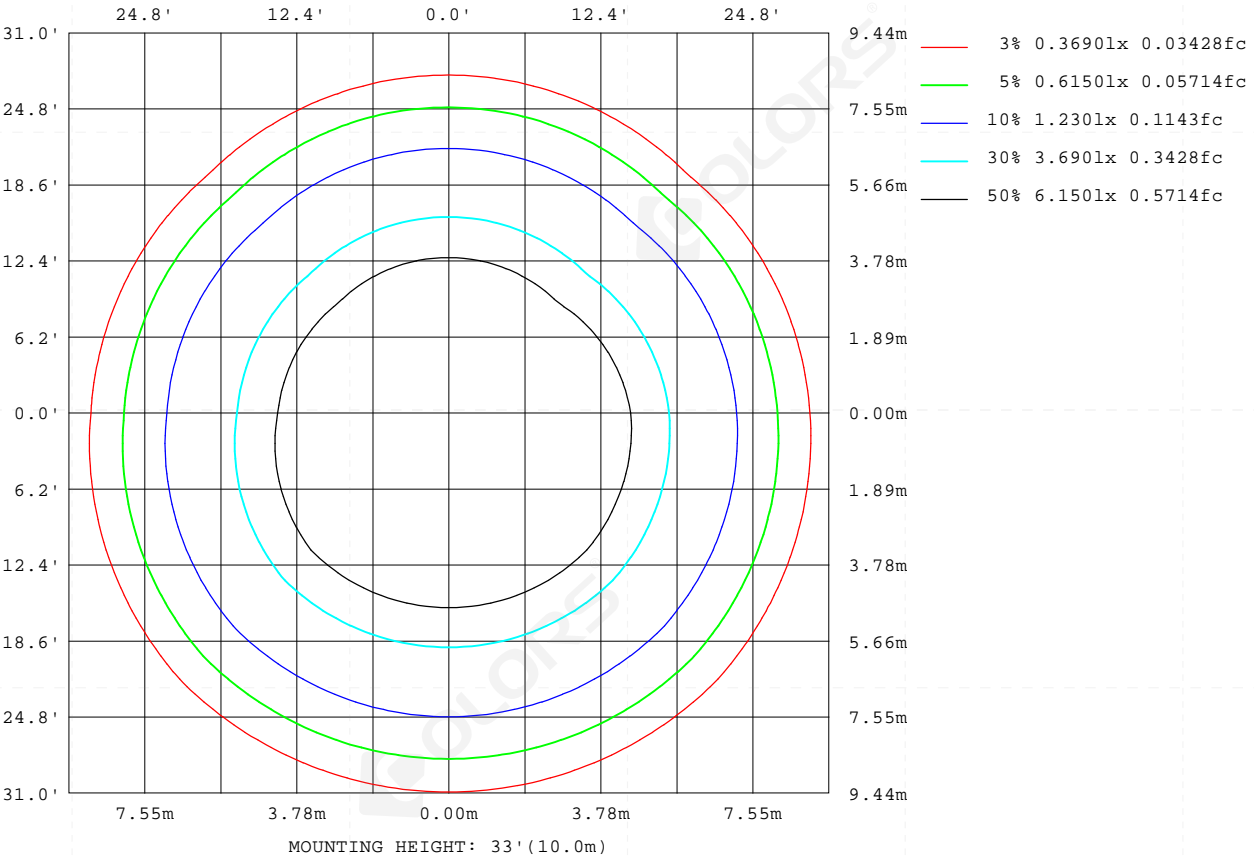


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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:2024-05-14

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:

LED Avg.L Report

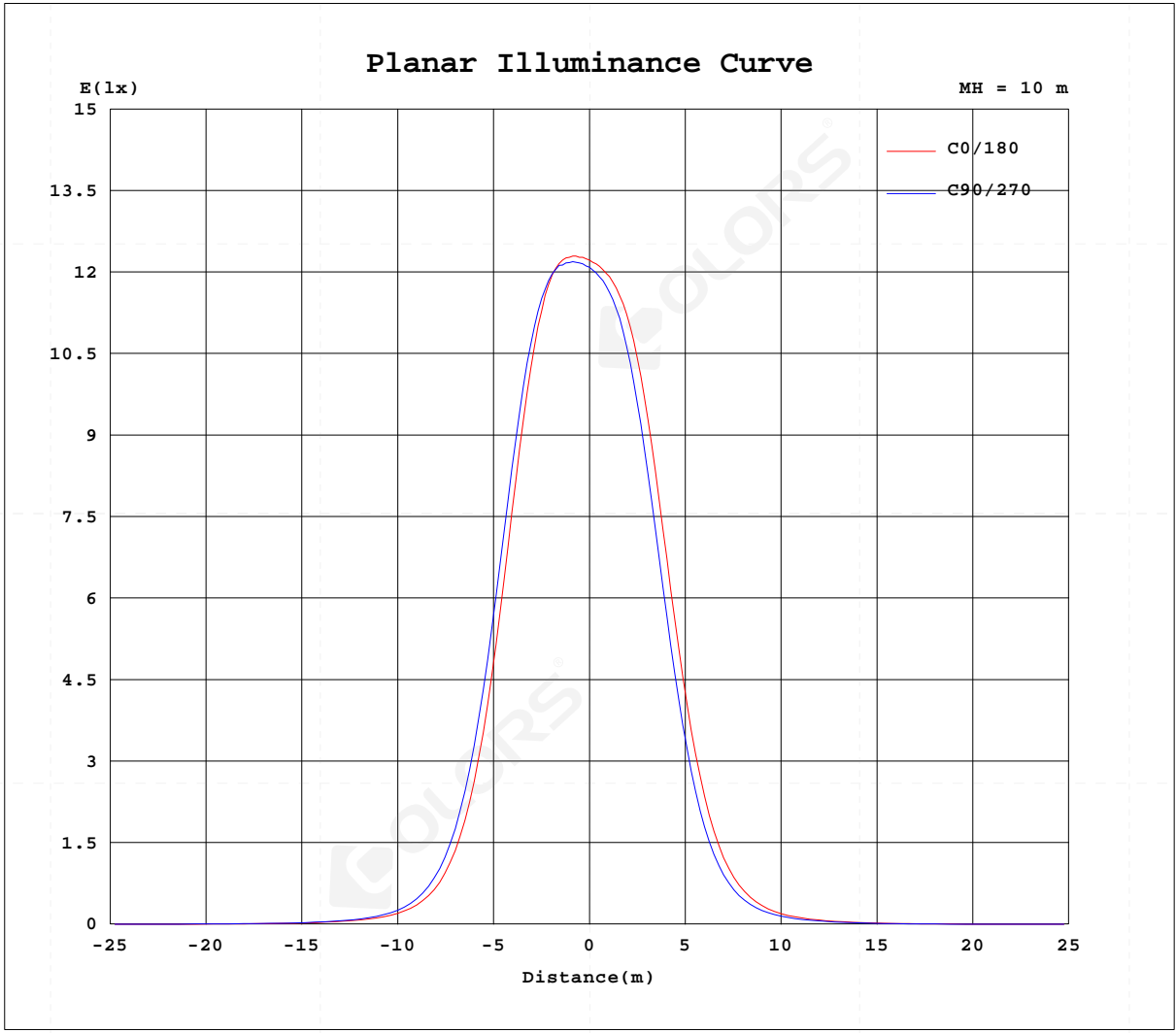
Test:U:48.00V I:0.2310A P:11.08W PF:1.000 Freq:0Hz    Lamp Flux:1018.66x1 lm		
NAME: FD-HM40SH52(T)-N938B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

AvgL	cd/m2
L_0~180(65)av	4867
L_0~180(75)av	568
L_0~180(85)av	1686
L_90~270(65)av	4800
L_90~270(75)av	534
L_90~270(85)av	1565
L_45(65)av	4829
L_45(75)av	501
L_45(85)av	1591

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:2024-05-14	Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JYH  
Test Date:2024-05-14

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	1222	1211	1209	1203	1222	1211	1209	1203										
5	1244	1236	1233	1232	1212	1190	1188	1186										
10	1264	1265	1262	1260	1196	1146	1142	1138										
15	1221	1255	1252	1249	1120	1023	1022	1019										
20	1055	1137	1136	1134	941	817	812	811										
25	771	890	890	889	683	560	556	554										
30	471	582	583	582	420	328	321	324										
35	247	316	320	318	224	168	166	166										
40	118	154	155	155	111	82.8	81.8	81.5										
45	57.9	73.7	73.9	73.8	55.9	43.0	42.5	42.3										
50	31.3	38.3	38.3	38.2	30.4	24.1	23.8	23.9										
55	17.8	21.4	21.5	21.4	17.1	13.5	13.3	13.3										
60	9.48	11.5	11.6	11.5	8.70	6.70	6.65	6.60										
65	4.44	5.92	5.91	5.93	3.79	2.26	2.21	2.22										
70	1.00	1.89	1.94	1.91	0.69	0.35	0.29	0.34										
75	0.29	0.23	0.26	0.23	0.30	0.29	0.29	0.29										
80	0.28	0.23	0.23	0.23	0.30	0.29	0.29	0.29										
85	0.28	0.26	0.23	0.27	0.31	0.29	0.31	0.29										
90	0.28	0.31	0.26	0.30	0.34	0.29	0.34	0.29										
95	0.37	0.36	0.30	0.35	0.37	0.35	0.39	0.35										
100	0.44	0.44	0.38	0.43	0.43	0.41	0.46	0.43										
105	0.66	0.58	0.53	0.58	0.52	0.53	0.58	0.52										
110	0.88	0.80	0.73	0.79	0.71	0.75	0.81	0.75										
115	1.44	1.19	1.12	1.18	1.09	1.21	1.27	1.21										
120	2.32	1.91	1.86	1.89	1.76	2.07	2.11	2.06										
125	3.72	3.09	3.03	3.06	2.88	3.34	3.39	3.35										
130	5.65	4.75	4.66	4.69	4.45	5.12	5.16	5.14										
135	7.92	6.83	6.72	6.76	6.51	7.35	7.38	7.35										
140	10.4	9.22	9.11	9.14	9.01	9.96	9.98	9.95										
145	13.0	11.7	11.6	11.6	11.8	12.7	12.7	12.7										
150	15.6	14.4	14.3	14.3	14.6	15.3	15.3	15.3										
155	18.1	17.0	16.9	16.9	17.1	17.5	17.5	17.4										
160	20.4	19.4	19.3	19.3	19.1	19.2	19.2	19.2										
165	22.4	21.5	21.3	21.3	20.9	20.8	20.8	20.7										
170	23.9	23.2	23.0	23.0	22.7	22.3	22.3	22.2										
175	25.0	24.4	24.2	24.2	24.3	23.8	23.8	23.7										
180	25.3	24.9	24.7	24.7	25.4	24.8	24.8	24.6										

C Range: 0 - 360DEGC Interval: 45.0DEGTest Speed: HIGHTemperature:25.3DEGOperators:JYHTest Date:2024-05-14

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