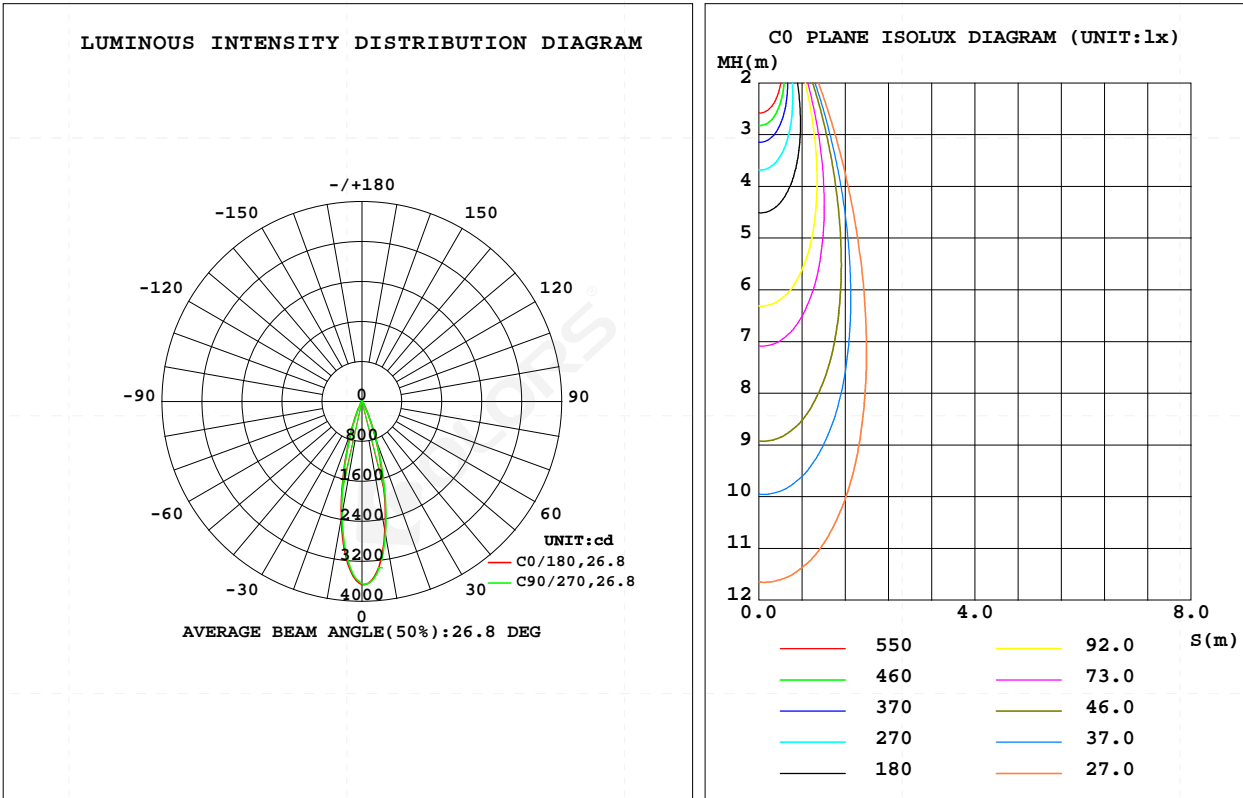


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.2390A P:11.40W PF:1.000 Freq:0Hz Lamp Flux:960.619x1 lm		
NAME: FD-HM40S2452(T)-N950B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 84.26 lm/W			
MODEL		I _{max} (cd)	3665	S/MH(C0/180)	0.47
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.42
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	960.62	h UP,DN(C0-180)	1.9,52.8
NOMINAL FLUX(lm)	960.619	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.7,43.6
LAMPS INSIDE	1	h up(%)	3.6	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	48	h down(%)	96.4	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2024-05-13

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

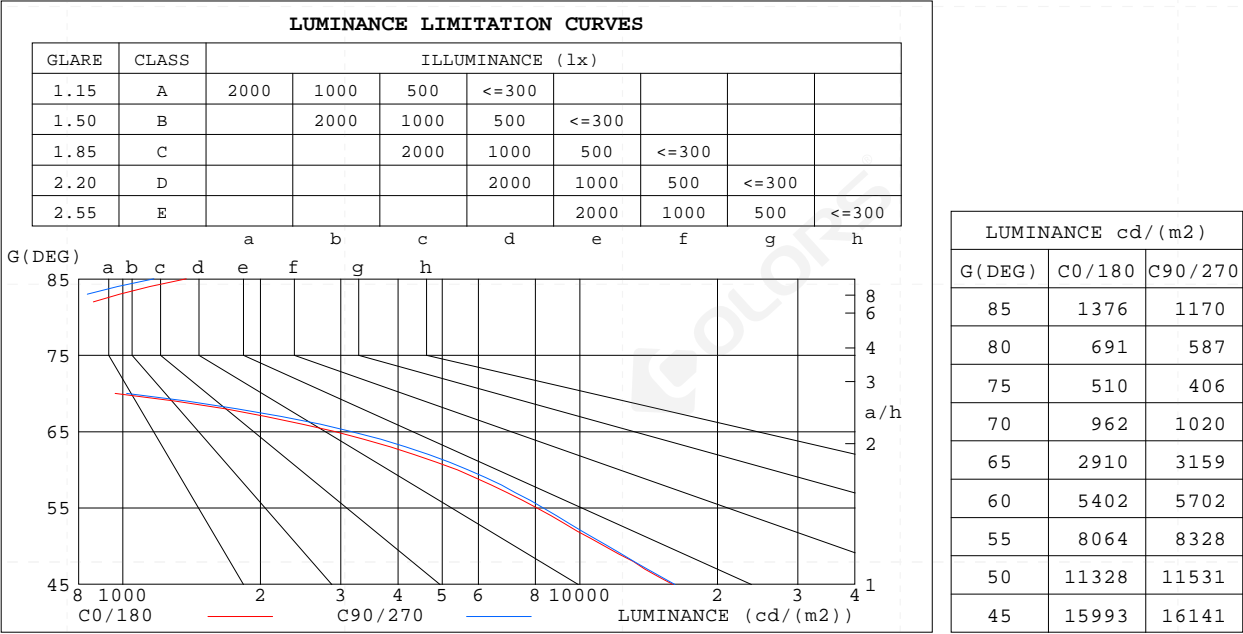
ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	2653	2701	2708	2716	2388	2332	2317	2314	0- 10	292.0	292.0	30.4,30.4
20	828.5	858.7	868.0	870.6	644.8	633.6	625.6	624.9	10- 20	415.8	707.7	73.7,73.7
30	132.6	136.8	138.6	138.6	100.2	101.1	99.72	99.85	20- 30	152.0	859.7	89.5,89.5
40	35.35	35.68	35.89	35.96	32.18	31.30	31.12	31.08	30- 40	38.54	898.3	93.5,93.5
50	14.56	14.67	14.82	14.76	13.47	12.70	12.67	12.64	40- 50	16.97	915.3	95.3,95.3
60	5.402	5.664	5.702	5.720	4.737	4.439	4.389	4.382	50- 60	7.985	923.2	96.1,96.1
70	0.6580	0.6395	0.6978	0.6398	0.4425	0.4464	0.3777	0.4403	60- 70	2.369	925.6	96.4,96.4
80	0.2399	0.2159	0.2039	0.2099	0.2758	0.2758	0.2759	0.2878	70- 80	0.2969	925.9	96.4,96.4
90	0.2517	0.2700	0.2757	0.2579	0.3059	0.2758	0.3119	0.2818	80- 90	0.2799	926.2	96.4,96.4
100	0.3597	0.4019	0.3657	0.4019	0.3900	0.3478	0.3899	0.3478	90-100	0.3458	926.5	96.5,96.5
110	0.5936	0.6364	0.5815	0.6359	0.5278	0.4676	0.5280	0.4797	100-110	0.4864	927.0	96.5,96.5
120	1.079	1.092	1.048	1.080	0.8763	0.8210	0.8884	0.8209	110-120	0.7193	927.7	96.6,96.6
130	3.507	3.048	2.975	3.010	2.359	2.365	2.426	2.380	120-130	1.450	929.2	96.7,96.7
140	9.517	9.216	9.149	9.146	7.196	7.329	7.343	7.373	130-140	3.927	933.1	97.1,97.1
150	18.24	18.07	18.02	17.99	16.01	16.21	16.22	16.28	140-150	7.797	940.9	97.9,97.9
160	24.09	24.03	23.95	23.97	25.15	25.09	25.10	25.12	150-160	9.692	950.6	99,99
170	26.06	25.76	25.69	25.73	29.09	28.30	28.28	28.27	160-170	7.409	958.0	99.7,99.7
180	28.51	27.88	27.74	27.81	28.56	27.88	27.81	27.84	170-180	2.607	960.6	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:2024-05-13

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

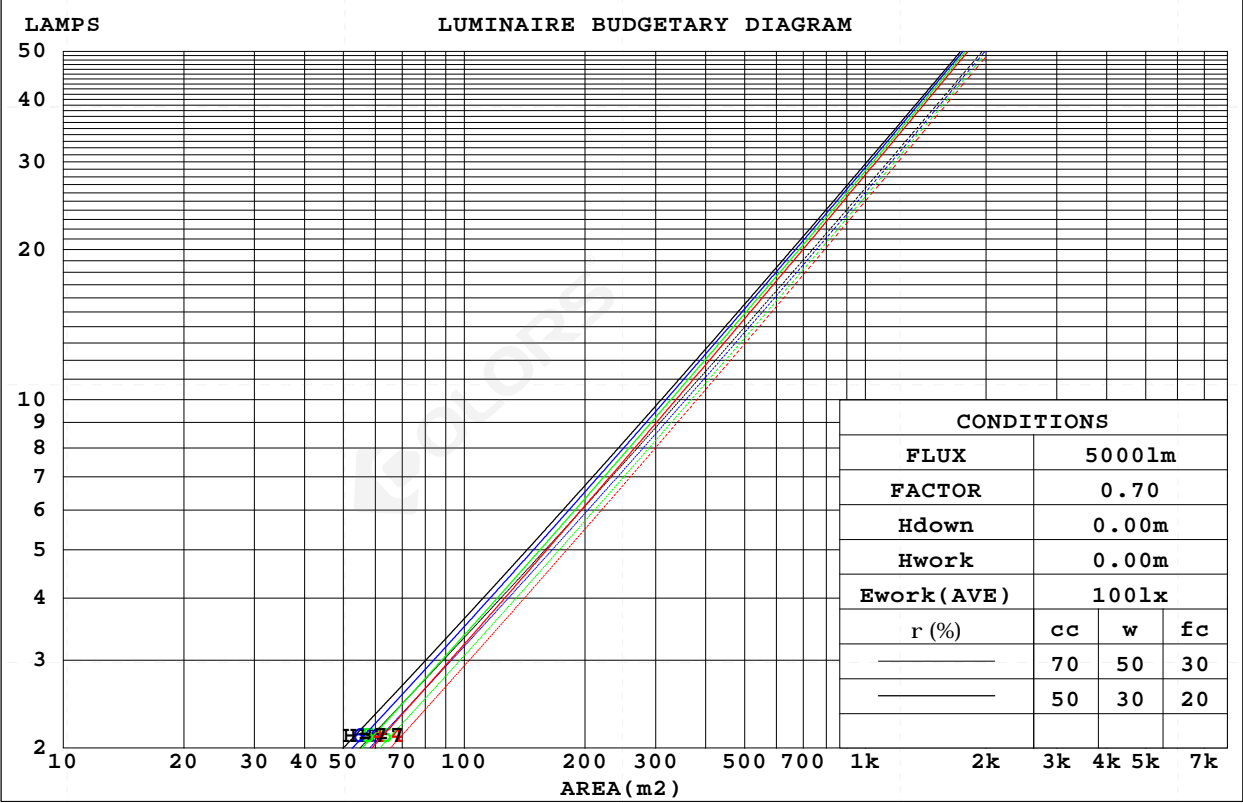


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2024-05-13

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	.96
1.0	1.12	1.10	1.08	1.09	1.07	1.06	1.04	1.03	1.02	1.00	.99	.98	.96	.95	.95	.93
2.0	1.06	1.03	.00	1.04	1.01	.98	1.00	.98	.96	.97	.95	.93	.94	.92	.91	.89
3.0	1.01	.97	.94	.99	.96	.93	.96	.93	.91	.93	.91	.89	.91	.89	.87	.86
4.0	.96	.92	.89	.95	.91	.88	.93	.89	.87	.90	.88	.85	.88	.86	.84	.83
5.0	.92	.88	.85	.91	.87	.84	.89	.86	.83	.87	.84	.82	.86	.83	.81	.80
6.0	.89	.84	.81	.88	.84	.81	.86	.83	.80	.85	.82	.79	.83	.80	.78	.77
7.0	.86	.81	.78	.85	.81	.78	.83	.80	.77	.82	.79	.76	.81	.78	.76	.75
8.0	.83	.78	.75	.82	.78	.75	.81	.77	.74	.80	.76	.74	.78	.76	.73	.72
9.0	.80	.76	.73	.79	.75	.72	.78	.75	.72	.77	.74	.72	.76	.73	.71	.70
10.0	.77	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.70	.74	.71	.69	.68



C Range: 0 - 360DEG

C Interval: 45.0DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JYH

Test Date:2024-05-13

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	.146	.083	.026	.139	.079	.025	.124	.071	.023	.111	.064	.021	.099	.057	.018	
2.0	.136	.075	.023	.130	.071	.022	.118	.065	.020	.106	.060	.019	.096	.054	.017	
3.0	.127	.068	.020	.122	.065	.020	.111	.060	.018	.102	.056	.017	.093	.051	.016	
4.0	.120	.062	.018	.115	.060	.018	.106	.056	.017	.098	.052	.016	.090	.049	.015	
5.0	.113	.057	.017	.109	.056	.016	.101	.052	.015	.094	.049	.015	.087	.046	.014	
6.0	.107	.053	.015	.103	.052	.015	.096	.049	.014	.090	.047	.014	.084	.044	.013	
7.0	.101	.050	.014	.098	.049	.014	.092	.047	.013	.086	.044	.013	.081	.042	.012	
8.0	.096	.047	.013	.094	.046	.013	.088	.044	.013	.083	.042	.012	.078	.040	.012	
9.0	.092	.045	.012	.090	.044	.012	.085	.042	.012	.080	.040	.011	.076	.038	.011	
10.0	.088	.042	.012	.086	.041	.012	.081	.040	.011	.077	.038	.011	.073	.037	.011	

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	.218	.218	.218	.186	.186	.186	.127	.127	.127	.073	.073	.073	.023	.023	.023	
1.0	.197	.185	.175	.168	.159	.150	.115	.109	.104	.066	.063	.061	.021	.020	.020	
2.0	.179	.160	.145	.153	.138	.125	.105	.096	.087	.061	.056	.051	.019	.018	.017	
3.0	.165	.141	.122	.141	.122	.106	.097	.085	.074	.056	.049	.044	.018	.016	.014	
4.0	.153	.126	.106	.131	.109	.092	.090	.076	.065	.052	.044	.038	.017	.014	.013	
5.0	.143	.114	.093	.123	.099	.081	.084	.069	.057	.049	.040	.034	.016	.013	.011	
6.0	.134	.104	.083	.115	.090	.072	.080	.063	.051	.046	.037	.030	.015	.012	.010	
7.0	.127	.096	.075	.109	.083	.065	.075	.058	.046	.044	.034	.027	.014	.011	.009	
8.0	.120	.090	.068	.104	.078	.060	.072	.055	.042	.042	.032	.025	.014	.011	.008	
9.0	.115	.084	.063	.099	.073	.055	.069	.051	.039	.040	.030	.023	.013	.010	.008	
10.0	.110	.079	.059	.095	.069	.051	.066	.049	.037	.038	.029	.022	.012	.009	.007	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:JYH
 Test Date:2024-05-13

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	2H	12.9	13.6	13.2	13.8	14.0	13.0	13.7	13.3	13.9	14.1
	3H	12.8	13.4	13.1	13.7	13.9	12.9	13.6	13.2	13.8	14.1
	4H	12.7	13.3	13.0	13.6	13.9	12.8	13.4	13.2	13.7	14.0
	6H	12.6	13.2	13.0	13.5	13.8	12.7	13.3	13.1	13.6	13.9
	8H	12.6	13.1	12.9	13.4	13.8	12.7	13.3	13.1	13.6	13.9
	12H	12.5	13.1	12.9	13.4	13.7	12.7	13.2	13.0	13.5	13.8
4H	2H	12.8	13.4	13.1	13.7	13.9	12.9	13.5	13.2	13.8	14.1
	3H	12.7	13.2	13.0	13.5	13.9	12.8	13.3	13.2	13.7	14.0
	4H	12.6	13.1	13.0	13.4	13.8	12.7	13.2	13.1	13.5	13.9
	6H	12.5	12.9	12.9	13.3	13.7	12.6	13.0	13.0	13.4	13.8
	8H	12.4	12.8	12.9	13.2	13.7	12.5	12.9	13.0	13.3	13.8
	12H	12.4	12.7	12.8	13.2	13.6	12.5	12.9	13.0	13.3	13.7
8H	4H	12.4	12.8	12.9	13.2	13.7	12.5	12.9	13.0	13.3	13.8
	6H	12.3	12.6	12.8	13.1	13.6	12.4	12.8	12.9	13.2	13.7
	8H	12.3	12.5	12.8	13.0	13.5	12.4	12.7	12.9	13.1	13.6
	12H	12.2	12.5	12.7	13.0	13.5	12.3	12.6	12.8	13.1	13.6
12H	4H	12.4	12.7	12.8	13.1	13.6	12.5	12.8	12.9	13.3	13.7
	6H	12.2	12.5	12.7	13.0	13.5	12.4	12.7	12.9	13.1	13.6
	8H	12.2	12.4	12.7	12.9	13.5	12.3	12.6	12.8	13.1	13.6
Variations with the observer position at spacings:											
S = 1.0H	+ 2.0 / - 3.6					+ 2.0 / - 3.6					
1.5H	+ 2.8 / - 2.2					+ 2.9 / - 2.2					
2.0H	+ 3.3 / - 4.2					+ 3.2 / - 4.1					

CIE Pub.117, 960.6 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:2024-05-13

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:

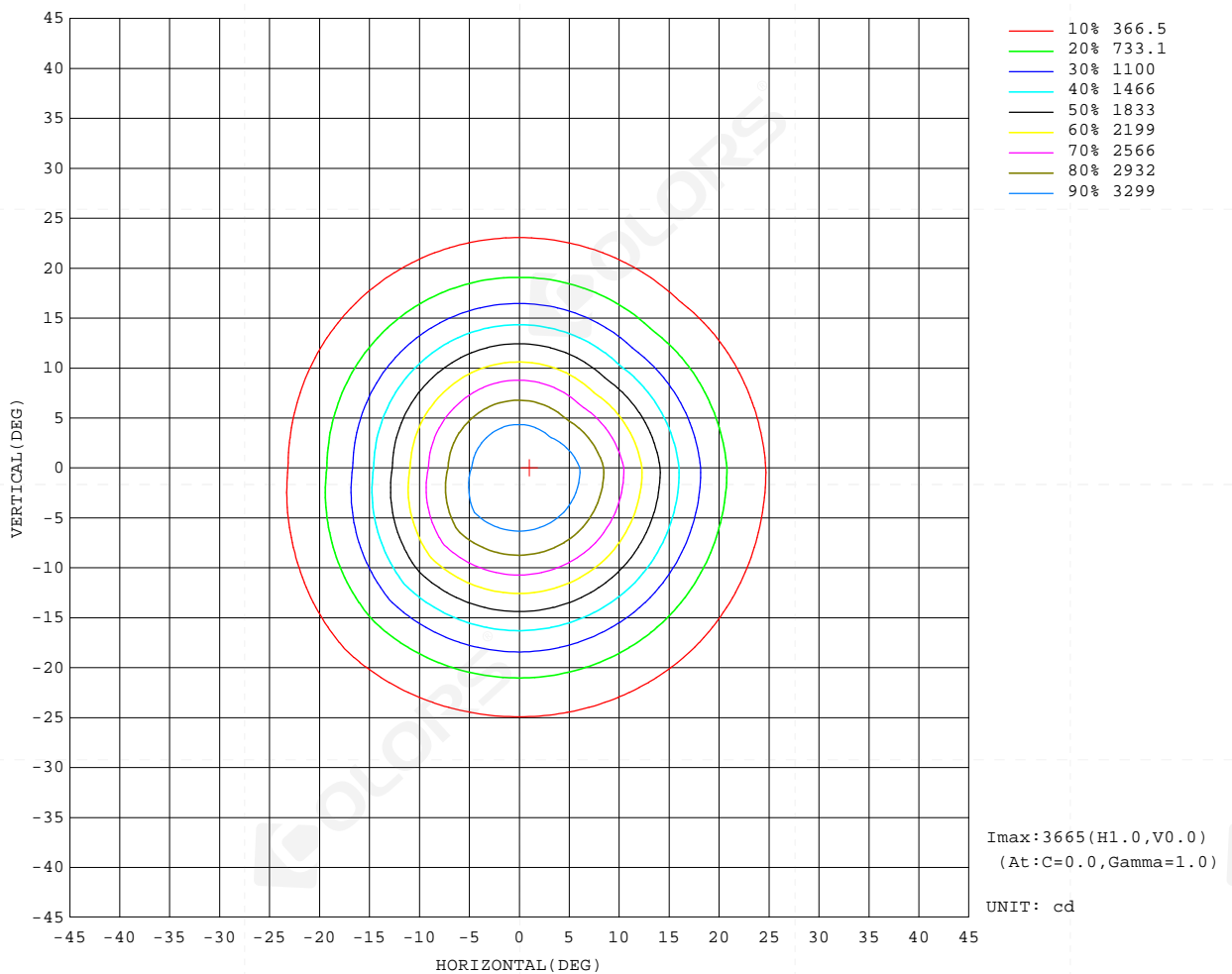
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	88	81	78	87	81	78	86	81	77	74
0.80	95	89	86	94	89	85	92	88	85	81
1.00	99	93	90	98	93	90	96	92	89	85
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	106	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:2024-05-13

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:

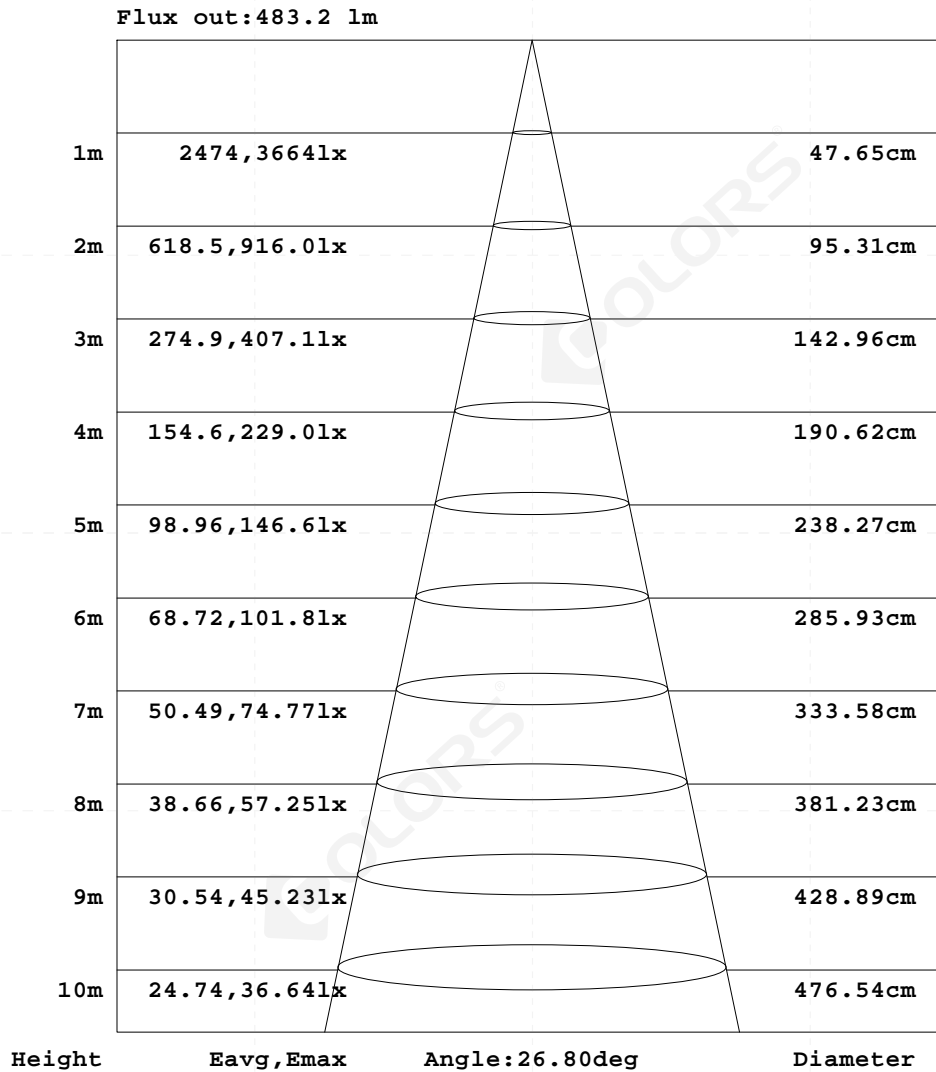
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JYH
Test Date: 2024-05-13

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

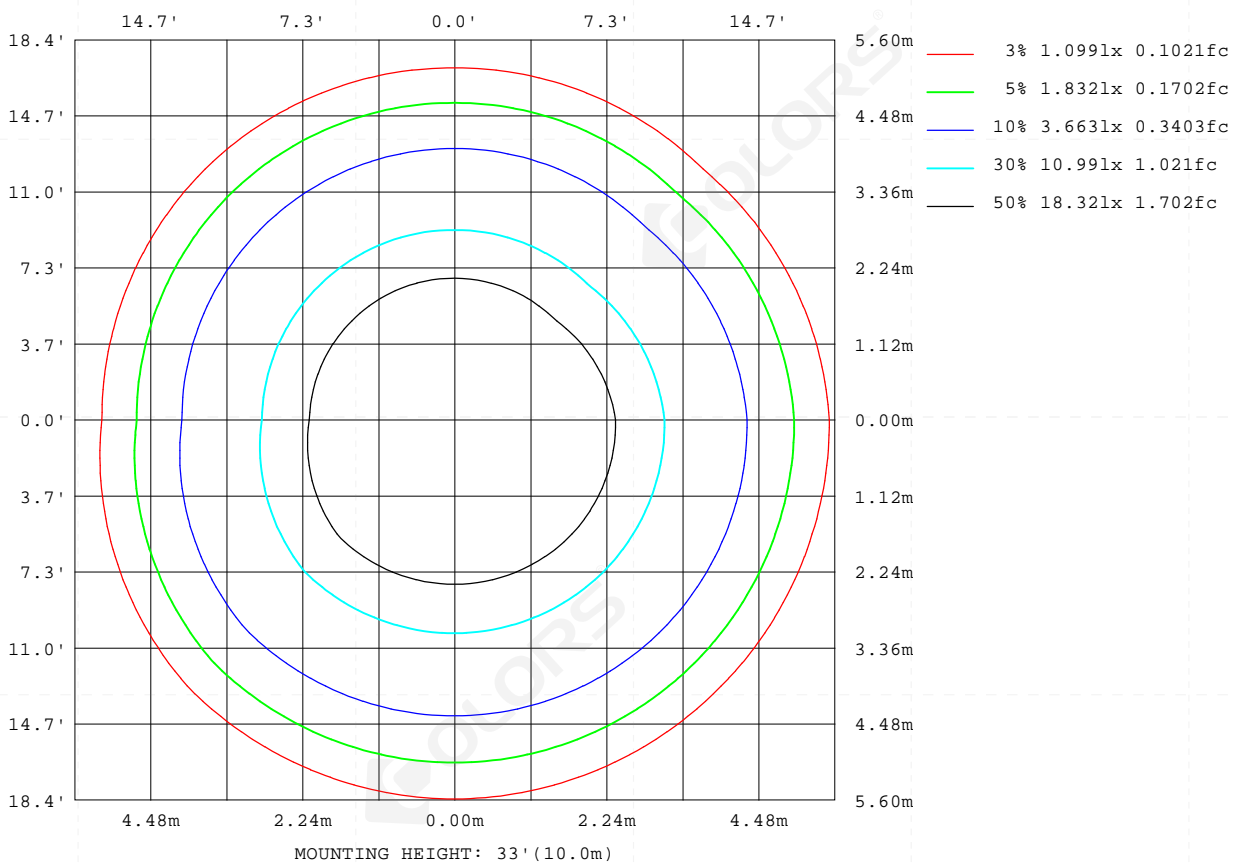


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2024-05-13

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: 2024-05-13

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

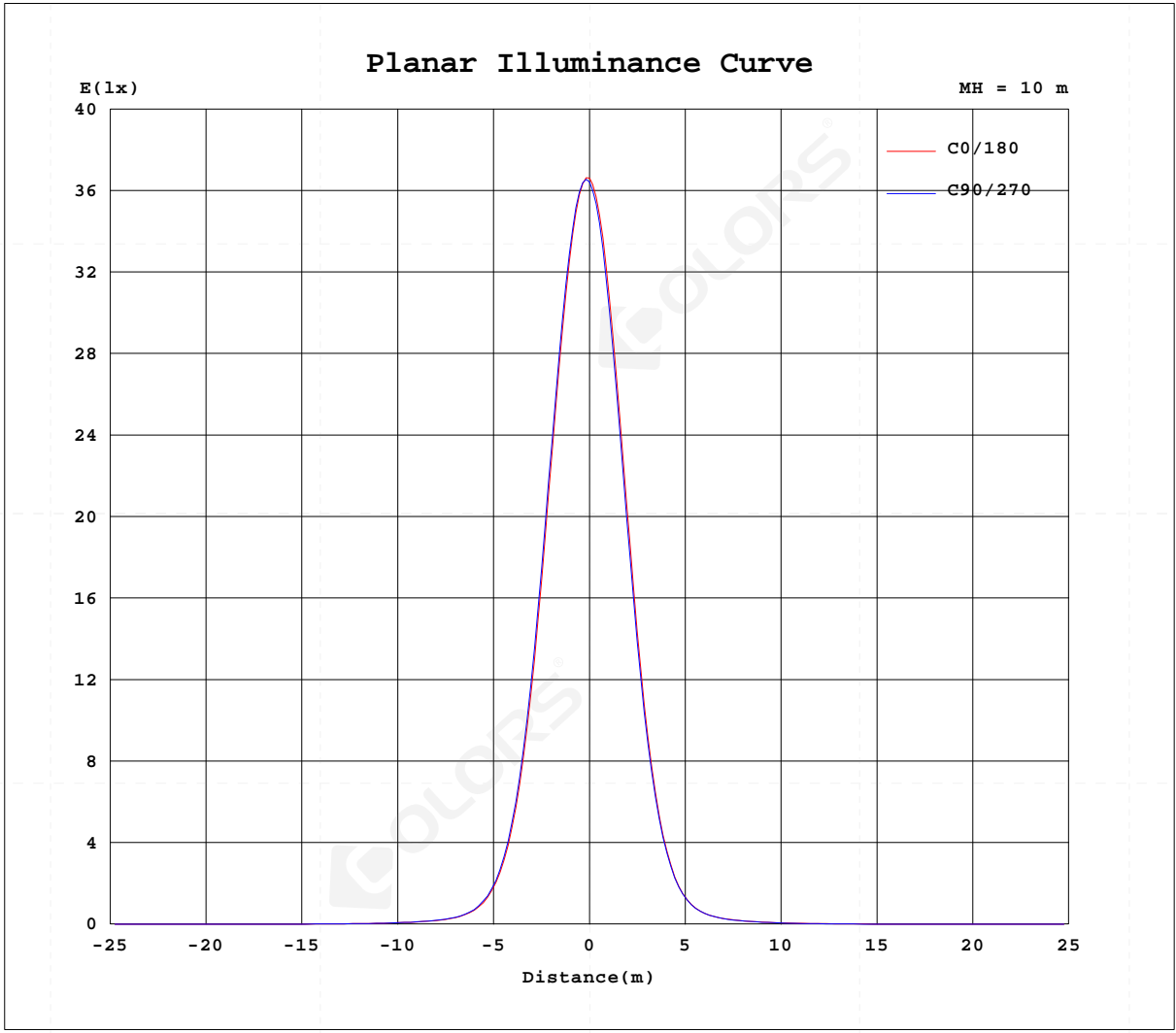
Test:U:48.00V I:0.2390A P:11.40W PF:1.000 Freq:0Hz Lamp Flux:960.619x1 lm		
NAME: FD-HM40SF52(T)-N950B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

AvgL	cd/m2
L_0~180(65)av	2681
L_0~180(75)av	515
L_0~180(85)av	1514
L_90~270(65)av	2614
L_90~270(75)av	469
L_90~270(85)av	1428
L_45(65)av	2615
L_45(75)av	461
L_45(85)av	1454

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:2024-05-13	Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JYH
Test Date: 2024-05-13

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	3662	3647	3642	3644	3662	3647	3642	3644										
5	3429	3452	3454	3455	3270	3222	3210	3211										
10	2653	2701	2708	2716	2388	2332	2317	2314										
15	1657	1704	1716	1718	1387	1355	1339	1341										
20	828	859	868	871	645	634	626	625										
25	343	362	362	366	252	253	247	249										
30	133	137	139	139	100	101	99.7	99.9										
35	60.8	62.3	62.9	62.9	51.6	51.4	51.0	50.9										
40	35.3	35.7	35.9	36.0	32.2	31.3	31.1	31.1										
45	22.6	22.7	22.8	22.9	21.3	20.0	19.8	19.8										
50	14.6	14.7	14.8	14.8	13.5	12.7	12.7	12.6										
55	9.25	9.50	9.55	9.57	8.48	7.98	7.93	7.92										
60	5.40	5.66	5.70	5.72	4.74	4.44	4.39	4.38										
65	2.46	2.63	2.67	2.65	2.07	1.80	1.75	1.76										
70	0.66	0.64	0.70	0.64	0.44	0.45	0.38	0.44										
75	0.26	0.20	0.21	0.19	0.27	0.28	0.28	0.28										
80	0.24	0.22	0.20	0.21	0.28	0.28	0.28	0.29										
85	0.24	0.23	0.20	0.22	0.29	0.28	0.29	0.28										
90	0.25	0.27	0.28	0.26	0.31	0.28	0.31	0.28										
95	0.28	0.32	0.28	0.31	0.35	0.29	0.35	0.29										
100	0.36	0.40	0.37	0.40	0.39	0.35	0.39	0.35										
105	0.47	0.51	0.45	0.50	0.44	0.38	0.45	0.39										
110	0.59	0.64	0.58	0.64	0.53	0.47	0.53	0.48										
115	0.77	0.81	0.74	0.82	0.65	0.61	0.65	0.61										
120	1.08	1.09	1.05	1.08	0.88	0.82	0.89	0.82										
125	1.73	1.70	1.62	1.68	1.34	1.31	1.37	1.32										
130	3.51	3.05	2.98	3.01	2.36	2.36	2.43	2.38										
135	6.25	5.52	5.44	5.46	4.24	4.30	4.35	4.33										
140	9.52	9.22	9.15	9.15	7.20	7.33	7.34	7.37										
145	13.9	13.7	13.6	13.6	11.2	11.4	11.5	11.5										
150	18.2	18.1	18.0	18.0	16.0	16.2	16.2	16.3										
155	21.8	21.7	21.6	21.6	20.9	21.0	21.1	21.1										
160	24.1	24.0	24.0	24.0	25.1	25.1	25.1	25.1										
165	25.4	25.3	25.2	25.2	28.0	27.6	27.7	27.6										
170	26.1	25.8	25.7	25.7	29.1	28.3	28.3	28.3										
175	26.8	26.4	26.4	26.4	28.8	28.1	28.0	28.0										
180	28.5	27.9	27.7	27.8	28.6	27.9	27.8	27.8										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2024-05-13

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: