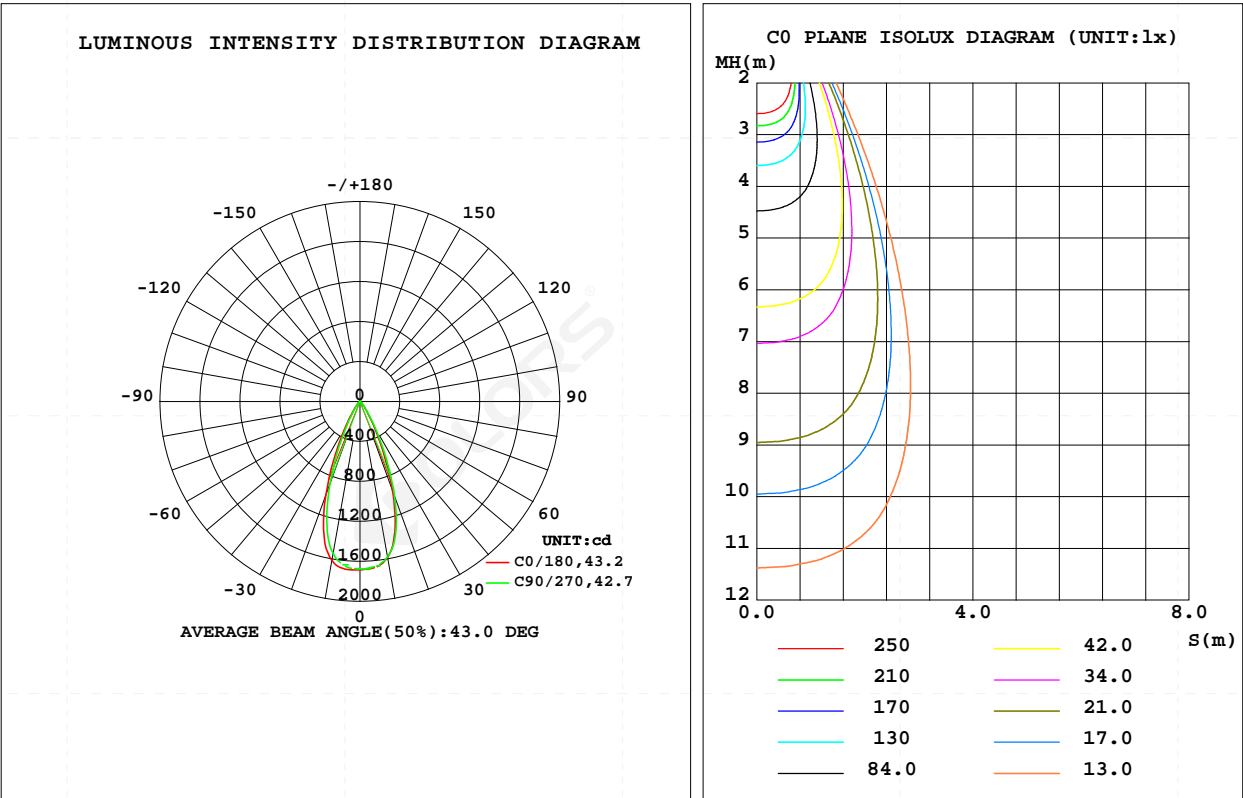


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:48.00V I:0.2450A P:11.76W PF:1.000 Freq:0Hz Lamp Flux:937.334x1 lm		
NAME: FD-HM40S3852(T)-N930B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 79.71 lm/W			
MODEL		I _{max} (cd)	1687	S/MH(C0/180)	0.65
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.64
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	937.33	h UP,DN(C0-180)	1.8,50.2
NOMINAL FLUX(lm)	937.334	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.6,46.3
LAMPS INSIDE	1	h up(%)	3.5	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	48	h down(%)	96.5	CIBSE SHR MAX	0.65



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

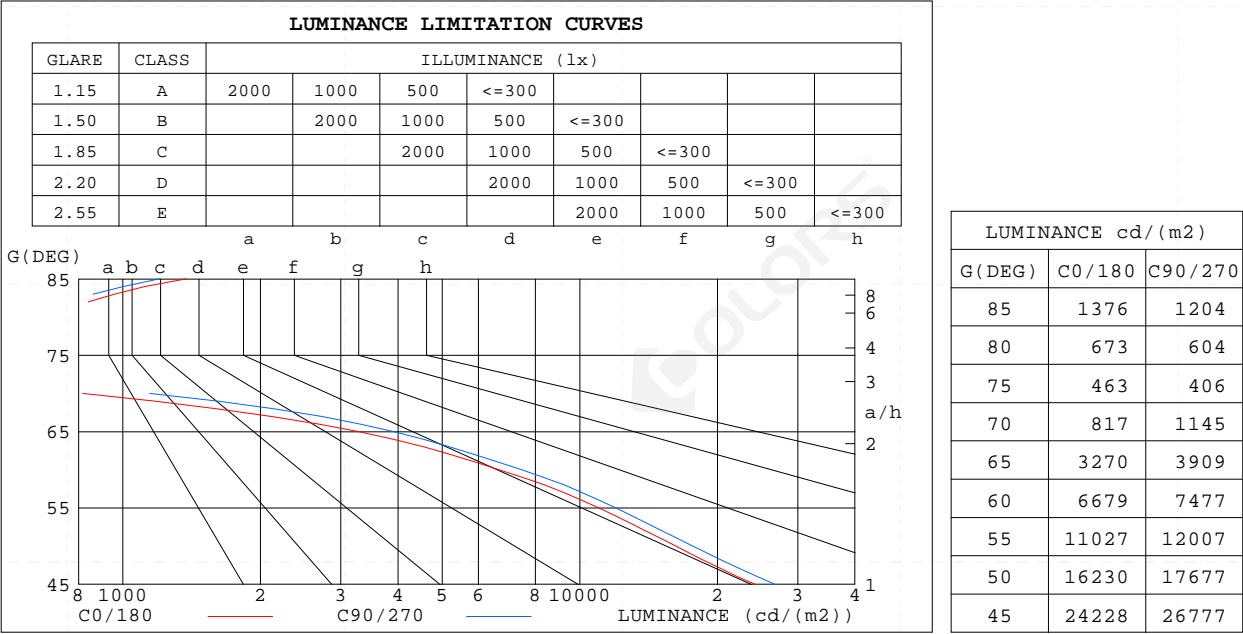
ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
10	1587	1586	1581	1580	1617	1553	1545	1542	0- 10	156.0	156.0	16.6,16.6
20	957.2	1018	1019	1018	1006	890.8	884.8	882.0	10- 20	363.5	519.6	55.4,55.4
30	262.6	303.2	308.0	305.0	283.3	236.7	230.6	231.7	20- 30	257.6	777.1	82.9,82.9
40	60.51	68.75	68.96	68.79	64.54	55.16	54.43	54.03	30- 40	84.27	861.4	91.9,91.9
50	20.86	22.74	22.73	22.65	21.42	19.26	19.08	19.00	40- 50	28.12	889.5	94.9,94.9
60	6.679	7.483	7.477	7.477	6.923	6.015	5.963	5.889	50- 60	11.57	901.1	96.1,96.1
70	0.5590	0.7219	0.7834	0.7342	0.7115	0.5127	0.4433	0.4941	60- 70	3.054	904.2	96.5,96.5
80	0.2339	0.2219	0.2099	0.2218	0.2758	0.2877	0.2758	0.2758	70- 80	0.3014	904.5	96.5,96.5
90	0.2698	0.2880	0.2875	0.2819	0.3058	0.2818	0.3060	0.2758	80- 90	0.2841	904.7	96.5,96.5
100	0.3836	0.4199	0.3658	0.4258	0.3839	0.3656	0.3839	0.3595	90-100	0.3532	905.1	96.6,96.6
110	0.7194	0.7021	0.6592	0.6961	0.5700	0.5511	0.5937	0.5396	100-110	0.5194	905.6	96.6,96.6
120	1.707	1.542	1.469	1.511	1.171	1.217	1.271	1.223	110-120	0.9135	906.5	96.7,96.7
130	4.926	4.312	4.231	4.257	3.164	3.414	3.461	3.417	120-130	2.178	908.7	96.9,96.9
140	10.23	9.447	9.330	9.351	7.436	7.914	7.928	7.908	130-140	4.688	913.4	97.4,97.4
150	16.27	15.58	15.45	15.44	13.81	14.34	14.31	14.30	140-150	7.303	920.7	98.2,98.2
160	21.23	20.86	20.69	20.71	19.92	19.90	19.89	19.82	150-160	8.189	928.9	99.1,99.1
170	23.75	23.40	23.19	23.25	23.38	22.71	22.70	22.60	160-170	6.170	935.1	99.8,99.8
180	25.39	24.87	24.73	24.72	25.51	24.76	24.75	24.64	170-180	2.272	937.3	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

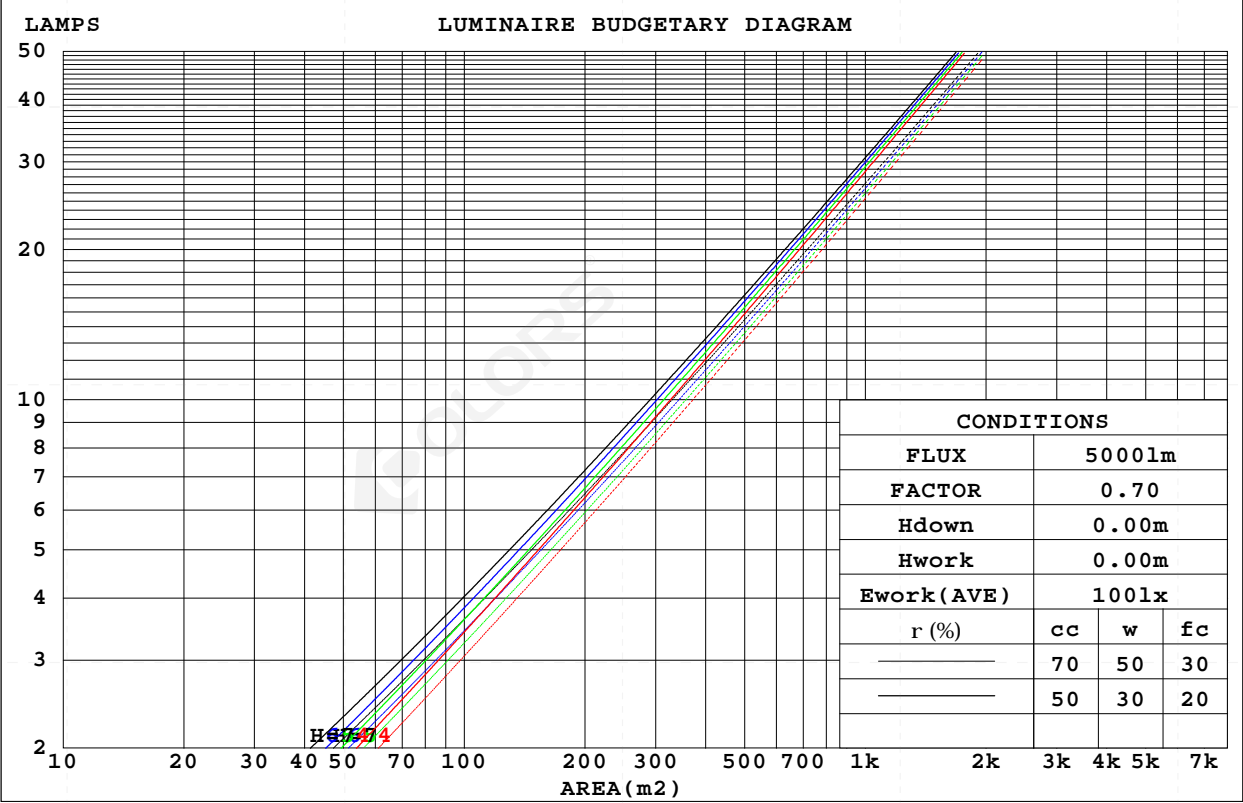


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JYH
Test Date:2024-05-14

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	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.00	.99	.98	.97	.95	.94	.94	.92
2.0	1.04	1.00	.97	1.02	.99	.96	.98	.95	.93	.95	.93	.91	.91	.90	.88	.87
3.0	.98	.93	.90	.96	.92	.89	.93	.90	.87	.90	.88	.85	.88	.85	.84	.82
4.0	.92	.87	.84	.91	.87	.83	.89	.85	.82	.86	.83	.80	.84	.81	.79	.78
5.0	.88	.82	.79	.86	.82	.78	.84	.80	.77	.82	.79	.76	.81	.78	.75	.74
6.0	.83	.78	.74	.82	.77	.74	.80	.76	.73	.79	.75	.72	.77	.74	.71	.70
7.0	.79	.74	.70	.78	.73	.70	.77	.72	.69	.75	.72	.69	.74	.71	.68	.67
8.0	.75	.70	.67	.75	.70	.66	.73	.69	.66	.72	.68	.65	.71	.68	.65	.64
9.0	.72	.67	.63	.71	.67	.63	.70	.66	.63	.69	.65	.62	.68	.65	.62	.61
10.0	.69	.64	.61	.68	.64	.60	.67	.63	.60	.67	.63	.60	.66	.62	.59	.58



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	.164	.093	.030	.156	.089	.028	.142	.081	.026	.128	.074	.024	.116	.067	.022	
2.0	.155	.085	.026	.148	.082	.025	.136	.076	.023	.125	.070	.022	.114	.065	.020	
3.0	.146	.078	.023	.141	.075	.023	.130	.071	.021	.120	.066	.020	.111	.062	.019	
4.0	.138	.072	.021	.134	.070	.021	.124	.066	.020	.116	.062	.019	.108	.059	.018	
5.0	.131	.067	.019	.127	.065	.019	.119	.062	.018	.112	.059	.018	.105	.056	.017	
6.0	.125	.063	.018	.121	.061	.018	.114	.059	.017	.108	.056	.016	.101	.053	.016	
7.0	.119	.059	.017	.116	.058	.016	.110	.055	.016	.104	.053	.015	.098	.051	.015	
8.0	.114	.056	.016	.111	.055	.015	.105	.053	.015	.100	.051	.015	.095	.049	.014	
9.0	.109	.053	.015	.106	.052	.015	.101	.050	.014	.096	.048	.014	.092	.047	.013	
10.0	.105	.050	.014	.102	.049	.014	.098	.048	.013	.093	.046	.013	.089	.045	.013	

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	.217	.217	.217	.185	.185	.185	.127	.127	.127	.073	.073	.073	.023	.023	.023	
1.0	.197	.184	.173	.168	.158	.149	.115	.109	.103	.066	.063	.060	.021	.020	.019	
2.0	.181	.159	.141	.155	.137	.122	.106	.095	.085	.061	.055	.050	.020	.018	.016	
3.0	.168	.140	.119	.144	.121	.103	.099	.084	.072	.057	.049	.043	.018	.016	.014	
4.0	.157	.126	.102	.134	.109	.089	.092	.076	.062	.053	.044	.037	.017	.014	.012	
5.0	.147	.114	.089	.127	.099	.078	.087	.069	.055	.051	.040	.032	.016	.013	.011	
6.0	.140	.104	.079	.120	.090	.069	.083	.063	.049	.048	.037	.029	.015	.012	.010	
7.0	.133	.097	.071	.114	.084	.062	.079	.059	.044	.046	.035	.026	.015	.011	.009	
8.0	.127	.090	.065	.109	.078	.057	.076	.055	.040	.044	.032	.024	.014	.011	.008	
9.0	.122	.085	.060	.105	.074	.053	.073	.052	.037	.042	.031	.022	.014	.010	.007	
10.0	.117	.081	.056	.101	.070	.049	.070	.049	.035	.041	.029	.021	.013	.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	17.1	17.9	17.4	18.1	18.3	17.7	18.5	18.0	18.7	18.9
3H	16.9	17.7	17.3	17.9	18.2	17.5	18.3	17.8	18.5	18.8
4H	16.9	17.6	17.2	17.8	18.1	17.5	18.2	17.8	18.4	18.7
6H	16.8	17.4	17.1	17.7	18.0	17.4	18.0	17.7	18.3	18.6
8H	16.7	17.4	17.1	17.7	18.0	17.3	17.9	17.7	18.3	18.6
12H	16.7	17.3	17.0	17.6	17.9	17.3	17.9	17.6	18.2	18.5
4H 2H	16.9	17.6	17.2	17.9	18.2	17.5	18.2	17.8	18.5	18.8
3H	16.8	17.4	17.1	17.7	18.0	17.3	17.9	17.7	18.3	18.6
4H	16.7	17.2	17.1	17.6	17.9	17.2	17.8	17.6	18.1	18.5
6H	16.5	17.0	17.0	17.4	17.8	17.1	17.6	17.6	18.0	18.4
8H	16.5	16.9	16.9	17.4	17.8	17.1	17.5	17.5	17.9	18.4
12H	16.4	16.9	16.9	17.3	17.7	17.0	17.4	17.5	17.9	18.3
8H 4H	16.5	16.9	16.9	17.4	17.8	17.1	17.5	17.5	17.9	18.4
6H	16.4	16.8	16.9	17.2	17.7	17.0	17.3	17.4	17.8	18.3
8H	16.3	16.6	16.8	17.1	17.6	16.9	17.2	17.4	17.7	18.2
12H	16.3	16.5	16.8	17.0	17.6	16.8	17.1	17.4	17.6	18.2
12H 4H	16.4	16.8	16.9	17.3	17.7	17.0	17.4	17.5	17.9	18.3
6H	16.3	16.6	16.8	17.1	17.6	16.9	17.2	17.4	17.7	18.2
8H	16.3	16.5	16.8	17.0	17.6	16.8	17.1	17.4	17.6	18.2
Variations with the observer position at spacings:										
S = 1.0H		+ 2.4 / - 5.4					+ 2.8 / - 5.5			
1.5H		+ 3.7 / - 3.3					+ 4.2 / - 3.6			
2.0H		+ 3.7 / - 5.3					+ 4.0 / - 5.4			

CIE Pub.117, 937.3 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.2$)

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:

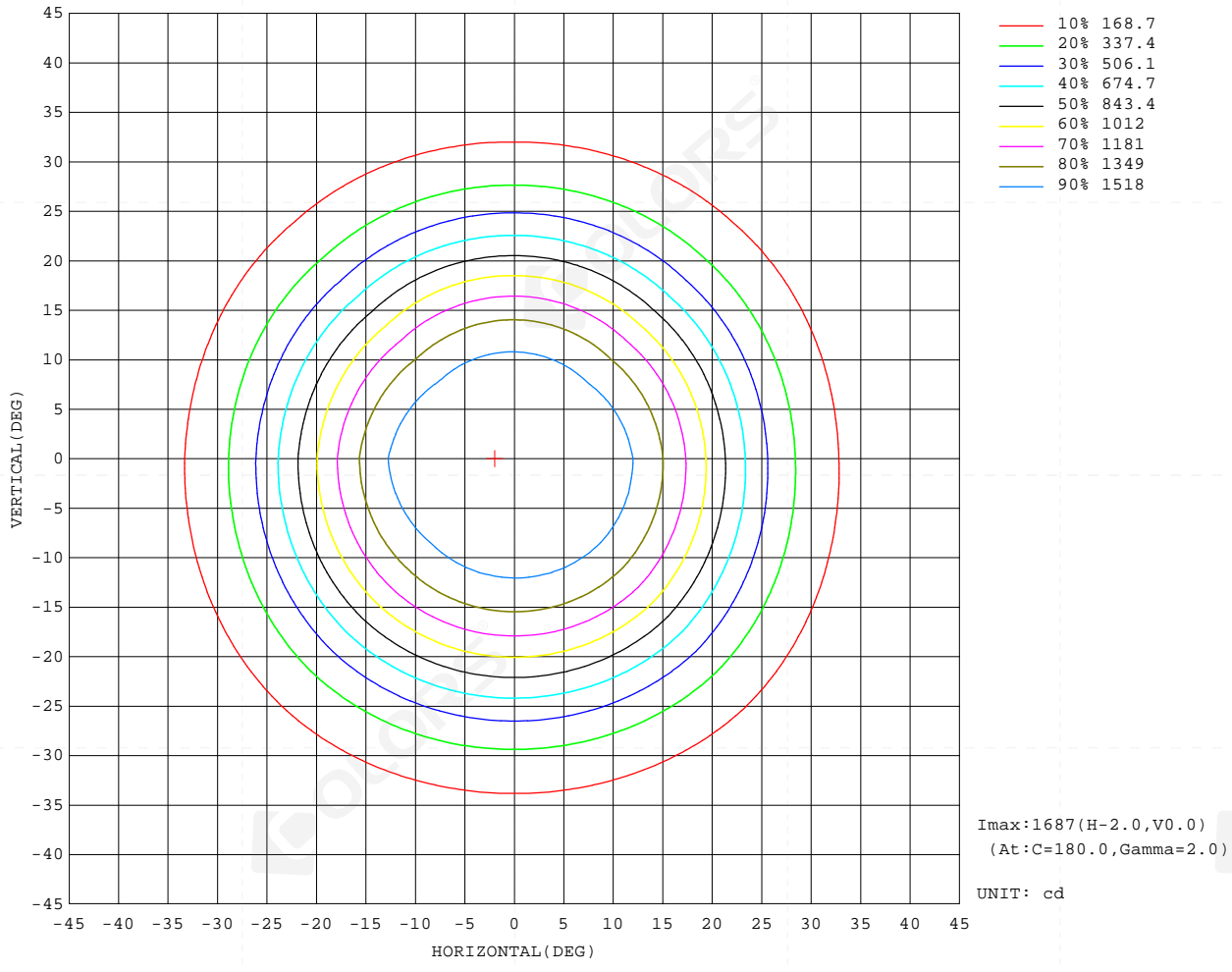
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	77	86	80	76	85	79	76	72
0.80	94	88	84	93	88	84	92	87	84	80
1.00	98	93	89	97	92	89	95	92	88	84
1.25	102	97	94	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	104	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:2024-05-14

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:

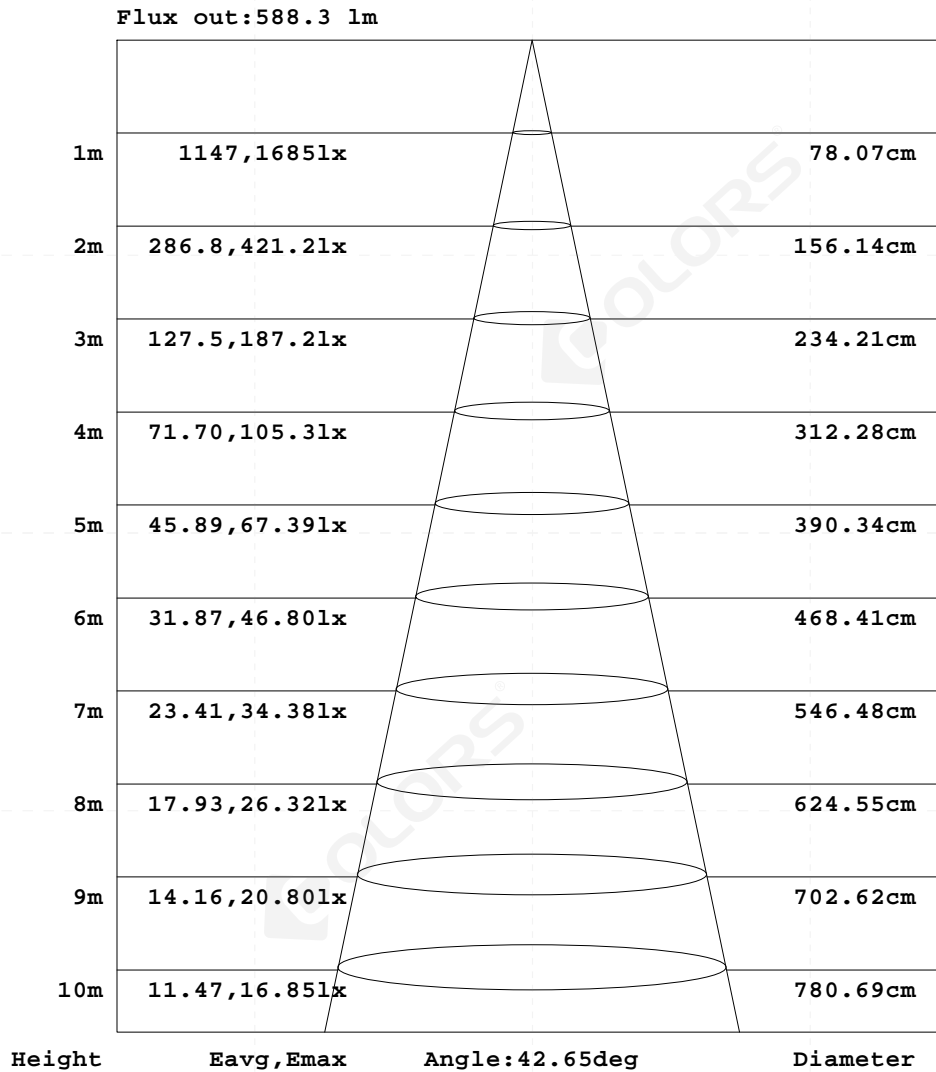
ISOCANDELA DIAGRAM



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

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

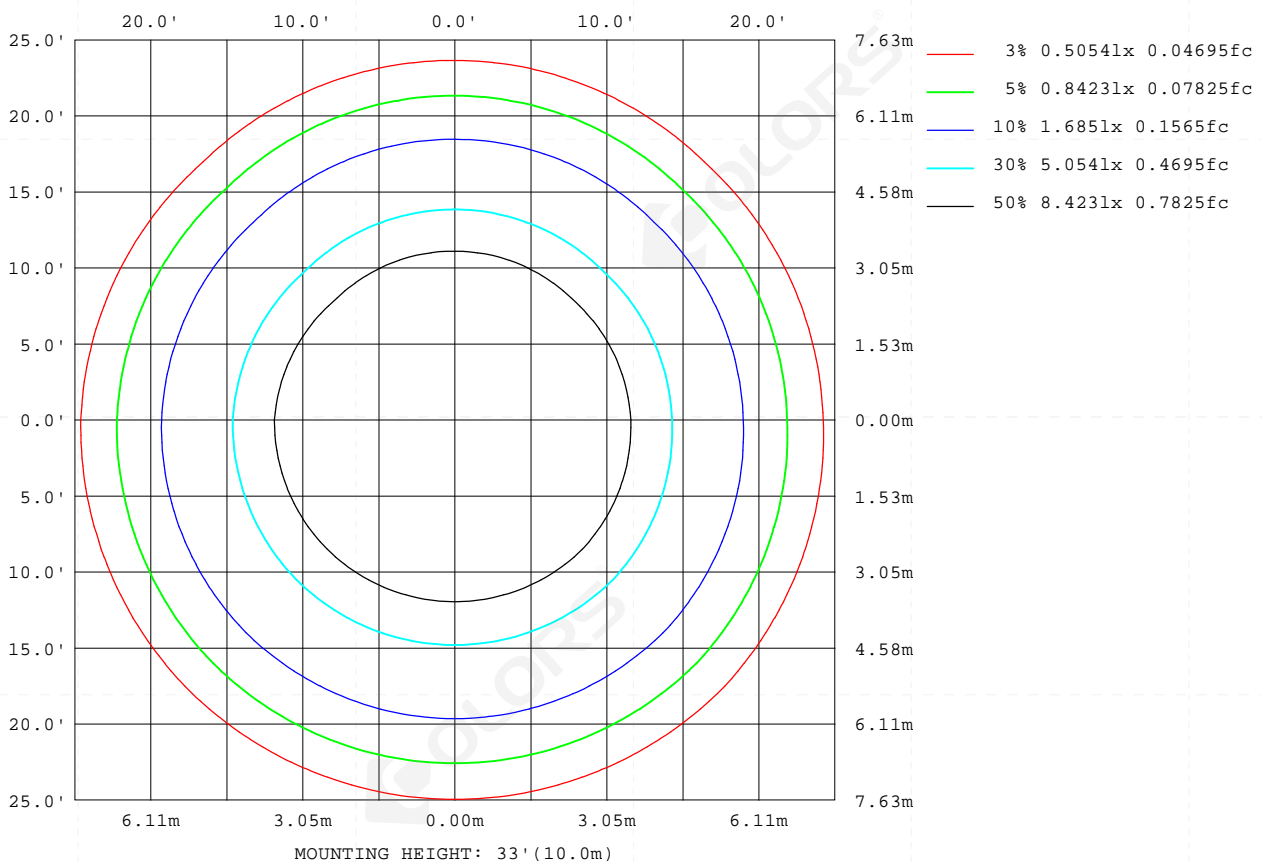


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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
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:

ISOLUX DIAGRAM



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:

LED Avg.L Report

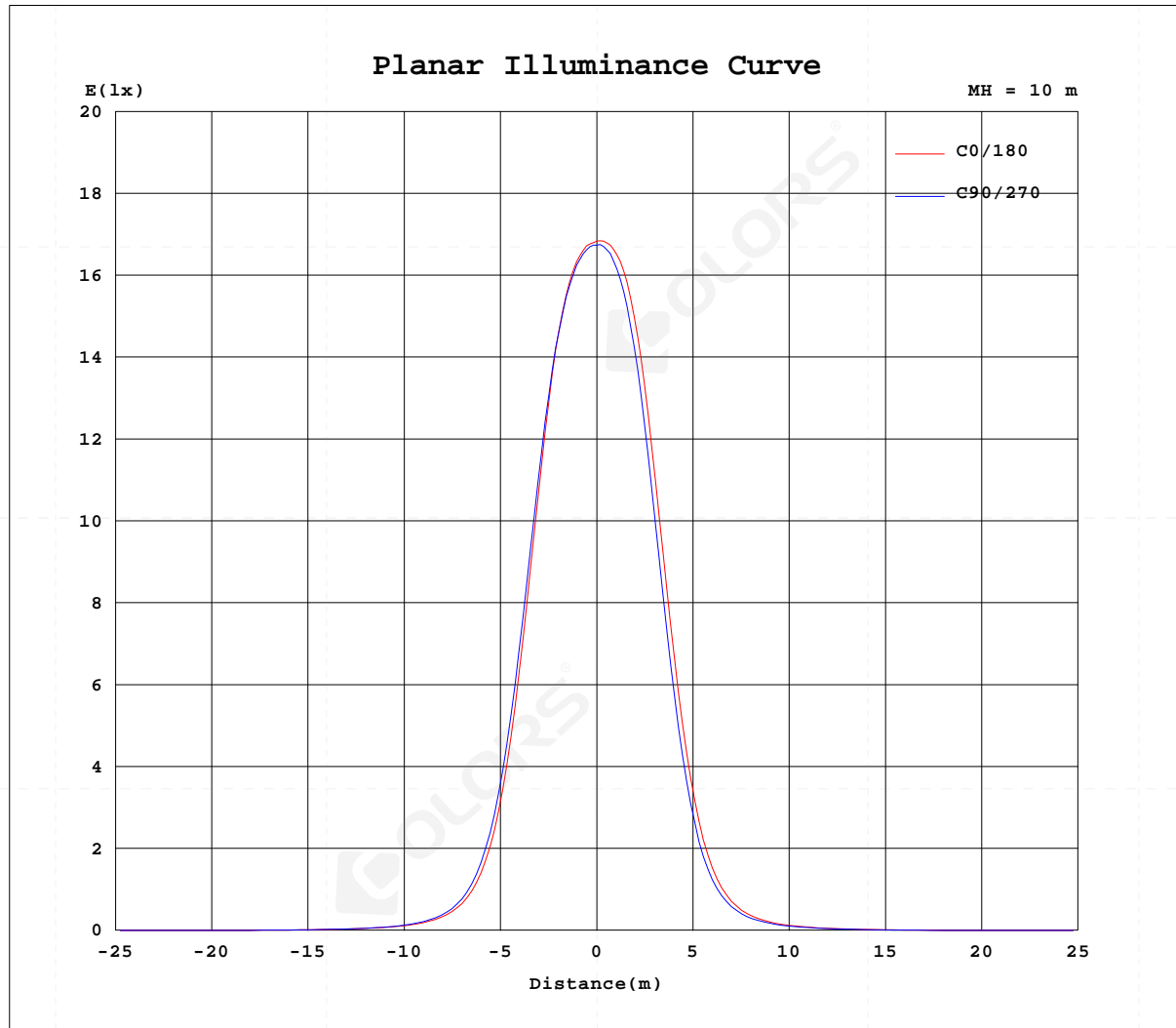
Test:U:48.00V I:0.2450A P:11.76W PF:1.000 Freq:0Hz Lamp Flux:937.334x1 lm		
NAME: FD-HM40SG52(T)-N930B12	TYPE:	WEIGHT:
SPEC.:	DIM.: 50mm	SERIAL No.:
MFR.: COLORS	SUR.:50mm	Shielding Angle:

AvgL	cd/m2
L_0~180(65)av	3400
L_0~180(75)av	492
L_0~180(85)av	1479
L_90~270(65)av	3361
L_90~270(75)av	458
L_90~270(85)av	1411
L_45(65)av	3375
L_45(75)av	461
L_45(85)av	1496

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

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C(DEG) g (DEG)	0	45	90	135	180	225	270	315										
0	1684	1682	1674	1672	1684	1682	1674	1672										
5	1668	1661	1658	1655	1684	1659	1655	1651										
10	1587	1586	1581	1580	1617	1553	1545	1542										
15	1351	1381	1379	1377	1394	1290	1282	1281										
20	957	1018	1019	1018	1006	891	885	882										
25	548	612	615	615	588	499	494	492										
30	263	303	308	305	283	237	231	232										
35	120	140	141	140	130	108	106	106										
40	60.5	68.7	69.0	68.8	64.5	55.2	54.4	54.0										
45	34.3	37.8	37.9	37.7	36.0	31.5	31.2	31.0										
50	20.9	22.7	22.7	22.7	21.4	19.3	19.1	19.0										
55	12.7	13.7	13.8	13.7	12.9	11.6	11.4	11.4										
60	6.68	7.48	7.48	7.48	6.92	6.01	5.96	5.89										
65	2.76	3.27	3.30	3.31	2.98	2.45	2.38	2.38										
70	0.56	0.72	0.78	0.73	0.71	0.51	0.44	0.49										
75	0.24	0.21	0.21	0.20	0.27	0.27	0.26	0.27										
80	0.23	0.22	0.21	0.22	0.28	0.29	0.28	0.28										
85	0.24	0.25	0.21	0.24	0.28	0.28	0.28	0.28										
90	0.27	0.29	0.29	0.28	0.31	0.28	0.31	0.28										
95	0.30	0.34	0.28	0.34	0.33	0.28	0.35	0.29										
100	0.38	0.42	0.37	0.43	0.38	0.37	0.38	0.36										
105	0.52	0.55	0.47	0.53	0.46	0.47	0.47	0.43										
110	0.72	0.70	0.66	0.70	0.57	0.55	0.59	0.54										
115	1.04	0.99	0.93	0.98	0.77	0.76	0.82	0.75										
120	1.71	1.54	1.47	1.51	1.17	1.22	1.27	1.22										
125	2.95	2.62	2.56	2.57	1.91	2.07	2.12	2.07										
130	4.93	4.31	4.23	4.26	3.16	3.41	3.46	3.42										
135	7.40	6.66	6.57	6.57	4.99	5.35	5.39	5.35										
140	10.2	9.45	9.33	9.35	7.44	7.91	7.93	7.91										
145	13.2	12.5	12.3	12.3	10.5	11.0	11.0	11.0										
150	16.3	15.6	15.4	15.4	13.8	14.3	14.3	14.3										
155	19.1	18.5	18.4	18.4	17.2	17.4	17.4	17.4										
160	21.2	20.9	20.7	20.7	19.9	19.9	19.9	19.8										
165	22.7	22.4	22.2	22.2	21.9	21.5	21.5	21.4										
170	23.8	23.4	23.2	23.2	23.4	22.7	22.7	22.6										
175	24.7	24.3	24.1	24.1	24.6	23.9	23.9	23.8										
180	25.4	24.9	24.7	24.7	25.5	24.8	24.8	24.6										

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: