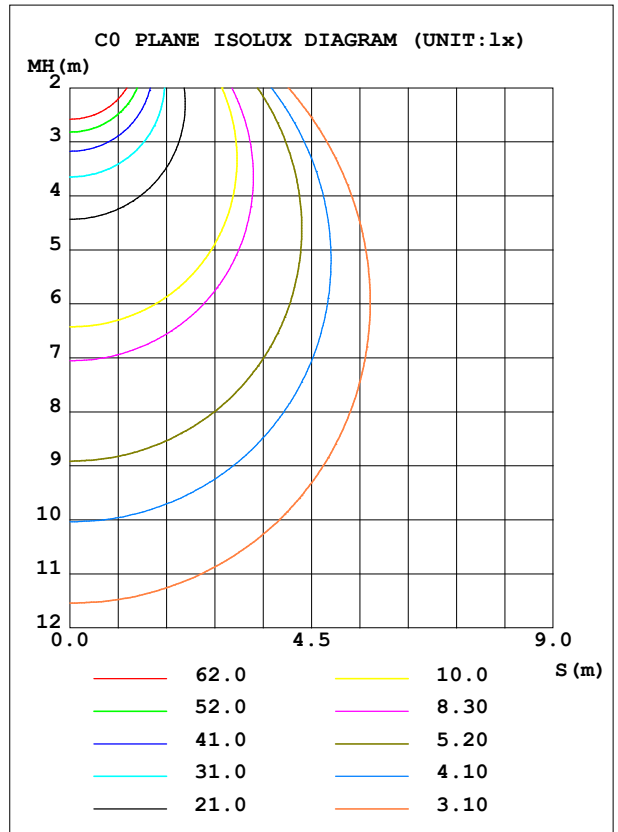
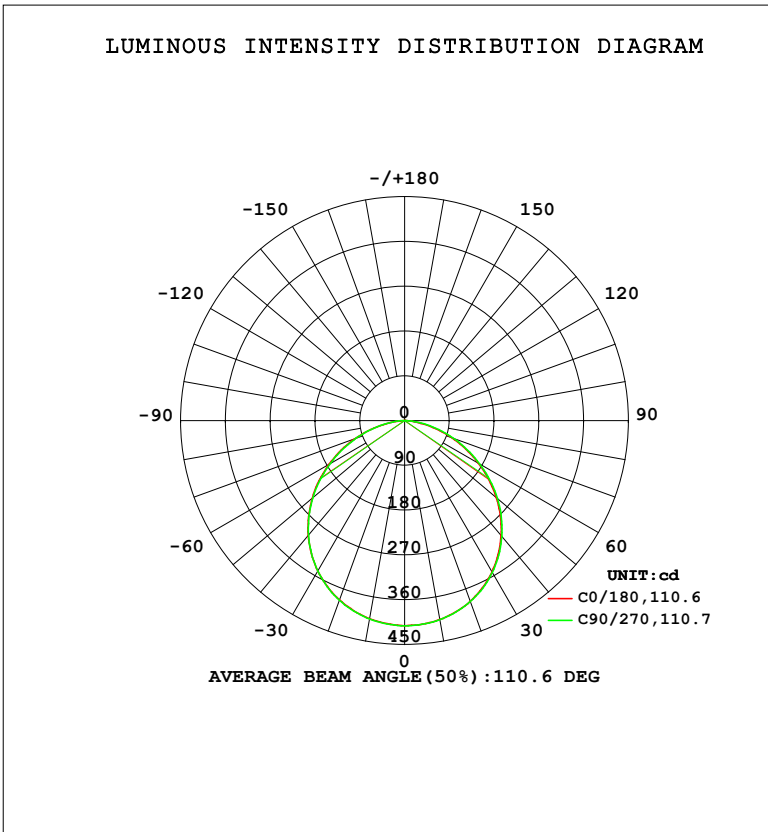


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	ASD-JFRB-MV-6D15WH	Imax (cd)	412.4	S/MH (C0/180)	1.26
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1148.2	η UP, DN (C0-180)	0.0, 50.2
NOMINAL FLUX (lm)	1148.17	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.3 °C
 Operators:
 Test Date: 2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

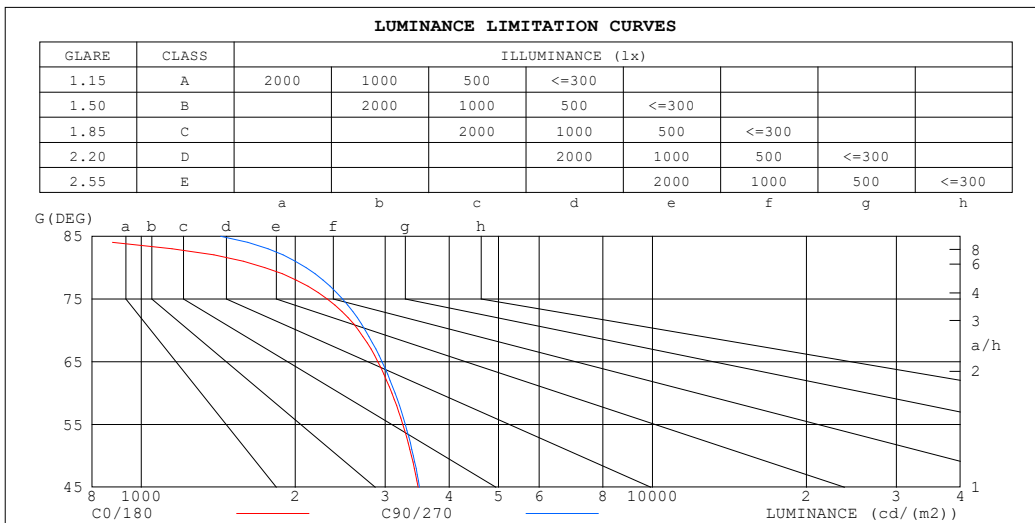
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	405.9	406.7	406.6	405.4	404.3	403.8	404.8	406.0	0- 10	39.02	39.02	3.4,3.4
20	386.2	387.6	386.8	385.0	383.4	382.4	384.0	385.5	10- 20	112.1	151.1	13.2,13.2
30	351.1	353.1	352.5	350.6	349.2	347.5	349.1	350.7	20- 30	170.3	321.4	28,28
40	301.9	304.1	304.1	302.6	301.6	299.4	300.5	301.8	30- 40	205.0	526.4	45.8,45.8
50	240.6	243.0	243.4	243.0	242.4	240.1	240.8	241.6	40- 50	210.6	737.0	64.2,64.2
60	171.3	173.5	174.4	175.2	175.4	172.3	172.9	173.0	50- 60	186.1	923.0	80.4,80.4
70	100.9	103.1	104.3	105.8	106.0	103.3	103.4	102.9	60- 70	136.9	1060	92.3,92.3
80	33.58	37.66	40.56	39.39	37.87	38.02	39.56	36.52	70- 80	73.99	1134	98.8,98.8
90	0.4283	0.4433	0.6612	0.4439	0.2822	0.2800	0.3023	0.2877	80- 90	14.21	1148	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	499	1429
80	1744	2100
75	2310	2475
70	2660	2743
65	2901	2958
60	3090	3136
55	3247	3283
50	3377	3406
45	3478	3501

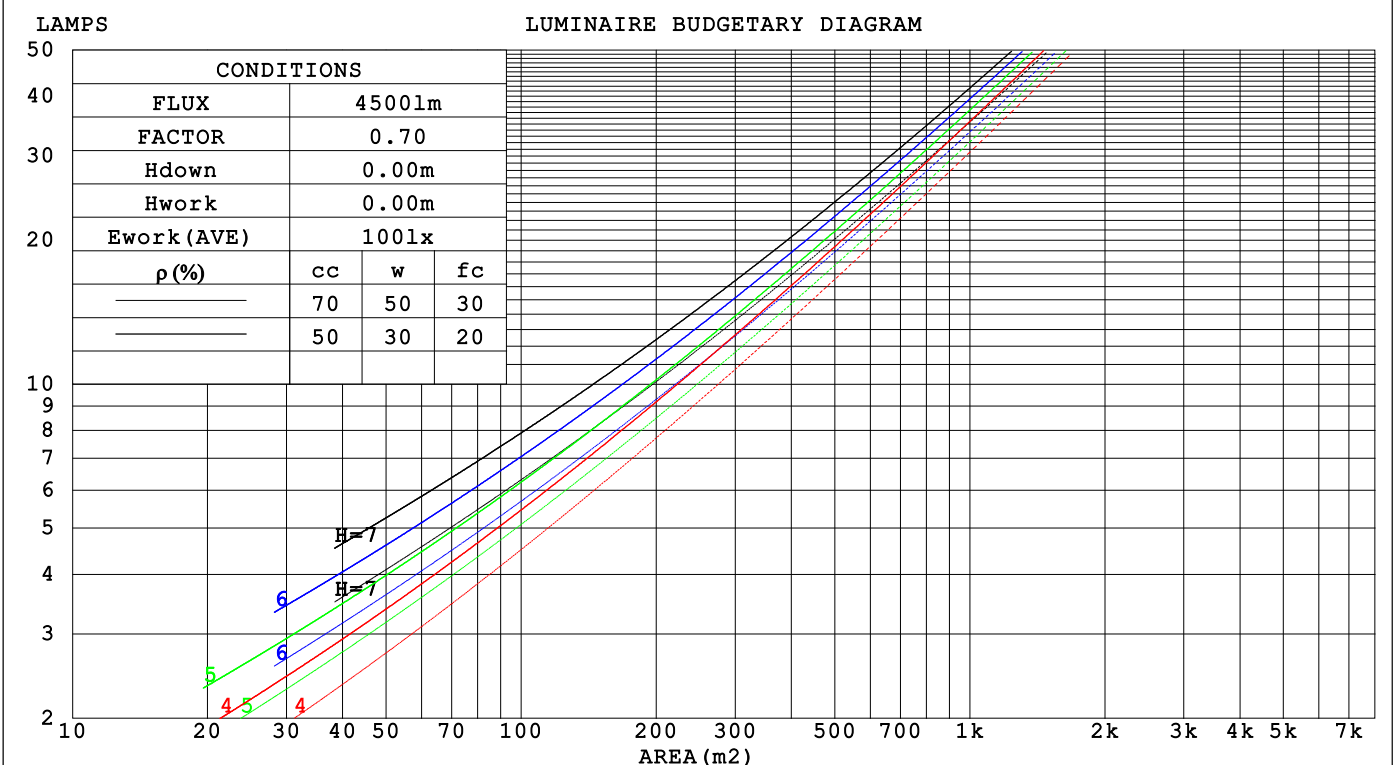
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.3°C
 Operators:
 Test Date: 2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	1.00	.97	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.79	.89	.83	.78	.86	.81	.76	.82	.78	.74	.79	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.62	.56	.70	.62	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.55	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.38	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.299	.170	.054	.292	.167	.053	.279	.160	.051	.267	.154	.049	.255	.148	.048	
2.0	.285	.156	.048	.279	.153	.047	.267	.148	.046	.256	.144	.045	.246	.139	.044	
3.0	.265	.141	.042	.260	.139	.042	.249	.135	.041	.240	.131	.040	.231	.128	.040	
4.0	.245	.128	.038	.241	.126	.037	.232	.123	.037	.223	.120	.036	.215	.117	.036	
5.0	.228	.116	.034	.223	.115	.033	.215	.112	.033	.208	.110	.033	.201	.107	.032	
6.0	.211	.106	.030	.208	.105	.030	.200	.103	.030	.194	.101	.030	.187	.099	.029	
7.0	.197	.097	.028	.194	.096	.027	.187	.095	.027	.181	.093	.027	.176	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.155	.079	.023	
10.0	.163	.078	.022	.160	.077	.022	.156	.076	.021	.151	.075	.021	.147	.074	.021	

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.111	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

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	16.5	18.0	16.8	18.2	18.4	16.5	18.1	16.8	18.3	18.5
3H	17.9	19.2	18.1	19.5	19.7	17.9	19.3	18.2	19.6	19.8
4H	18.3	19.7	18.7	19.9	20.2	18.5	19.8	18.8	20.0	20.3
6H	18.6	19.9	18.9	20.1	20.4	18.8	20.1	19.2	20.3	20.6
8H	18.6	19.8	19.0	20.1	20.4	18.9	20.1	19.3	20.4	20.7
12H	18.6	19.8	19.0	20.1	20.4	18.9	20.1	19.3	20.4	20.7
4H 2H	17.1	18.4	17.4	18.6	18.9	17.1	18.4	17.4	18.7	18.9
3H	18.6	19.8	19.0	20.1	20.4	18.7	19.8	19.0	20.1	20.4
4H	19.2	20.3	19.6	20.6	20.9	19.3	20.4	19.7	20.7	21.0
6H	19.6	20.5	20.0	20.9	21.2	19.8	20.7	20.2	21.1	21.5
8H	19.6	20.5	20.1	20.9	21.3	19.9	20.8	20.4	21.2	21.6
12H	19.6	20.4	20.1	20.8	21.2	20.0	20.8	20.4	21.2	21.6
8H 4H	19.4	20.3	19.8	20.7	21.1	19.6	20.4	20.0	20.8	21.2
6H	19.9	20.6	20.4	21.0	21.5	20.1	20.9	20.6	21.3	21.7
8H	20.0	20.7	20.5	21.1	21.5	20.3	21.0	20.8	21.4	21.9
12H	20.1	20.6	20.5	21.0	21.5	20.5	21.0	20.9	21.4	21.9
12H 4H	19.4	20.2	19.9	20.6	21.0	19.5	20.3	20.0	20.7	21.1
6H	20.0	20.6	20.4	21.0	21.5	20.2	20.8	20.6	21.2	21.7
8H	20.1	20.6	20.6	21.1	21.6	20.4	20.9	20.9	21.4	21.9
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1148 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.5)
Area: 0.111111 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.3°C
Operators:
Test Date:2024-01-17

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
Humidity:65.0%
Test Distance:3.080m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

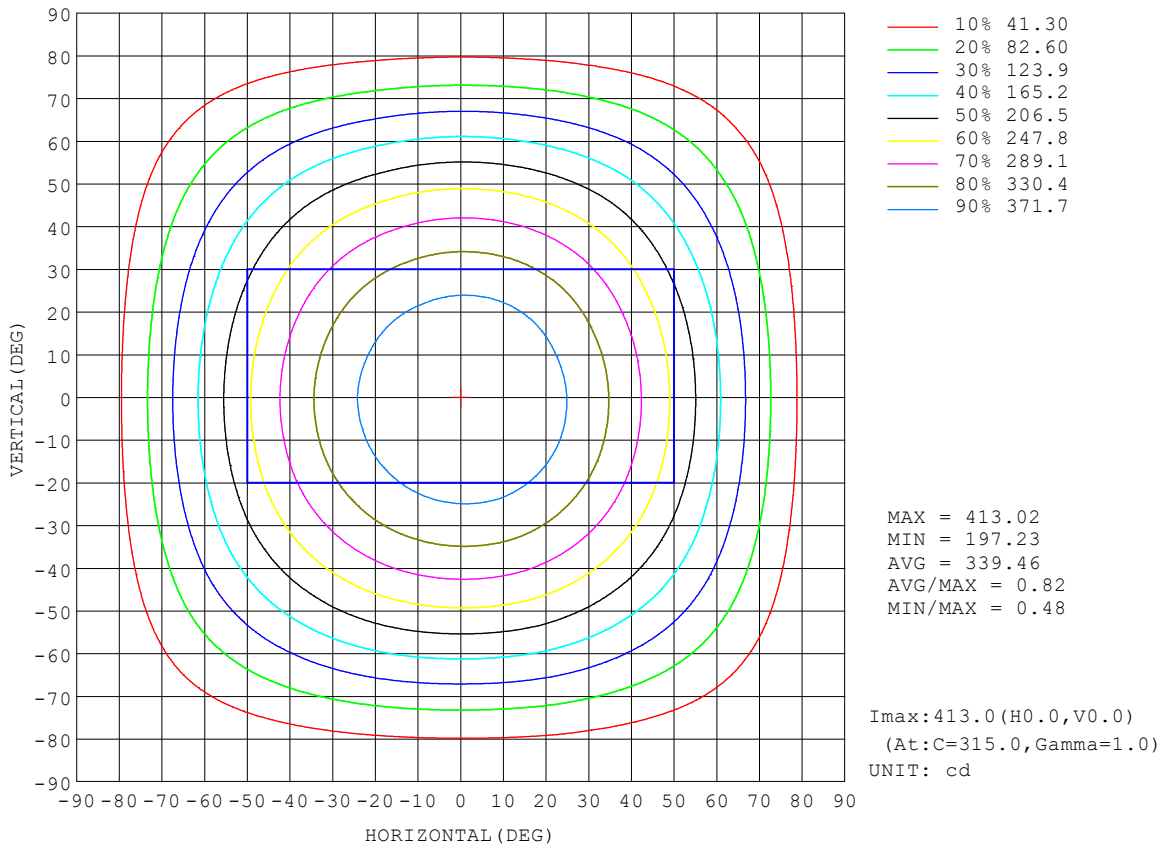
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	47	40	57	46	40	56	46	39	33
0.80	68	57	50	67	56	49	65	56	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	74	67	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	101	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

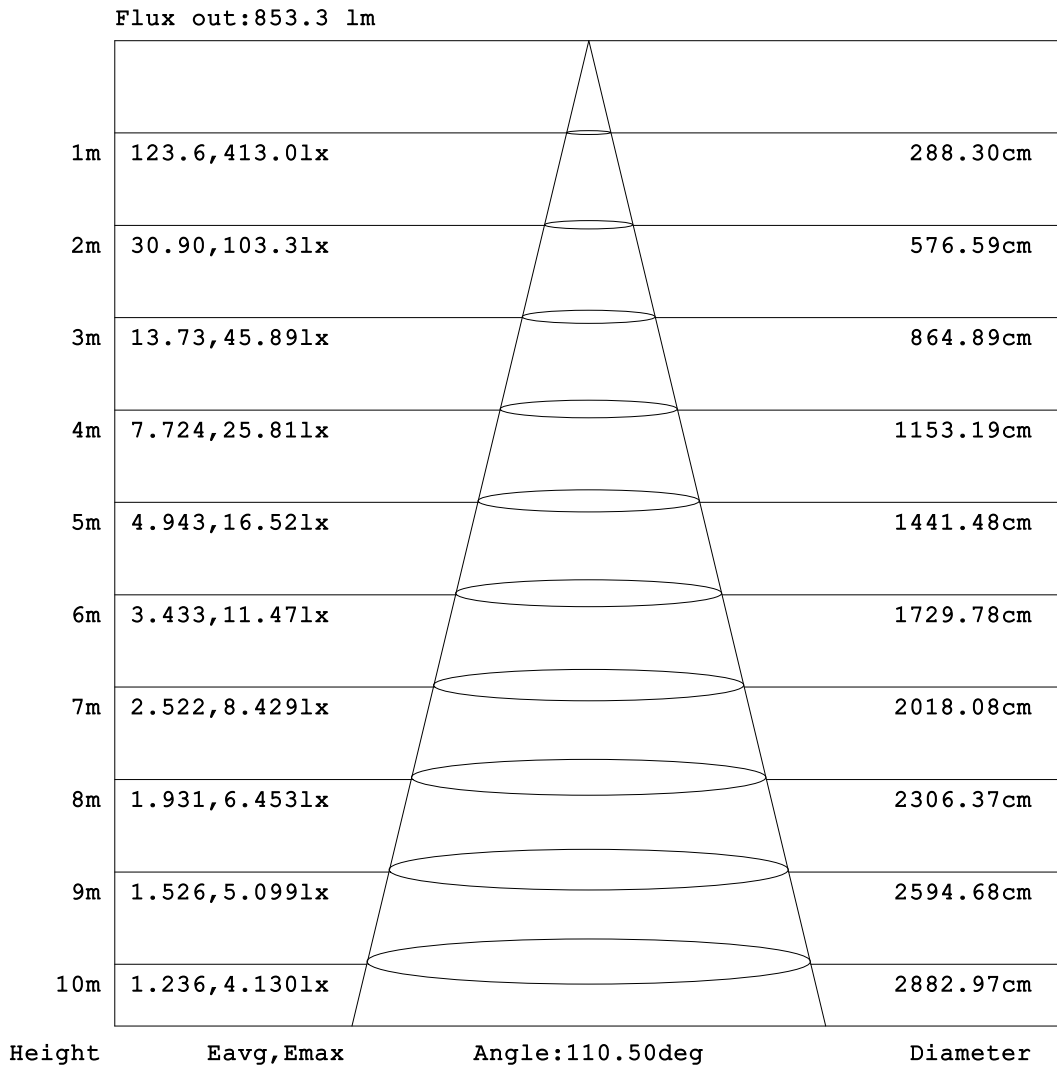


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.3°C
 Operators:
 Test Date: 2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

AAI Figure

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:



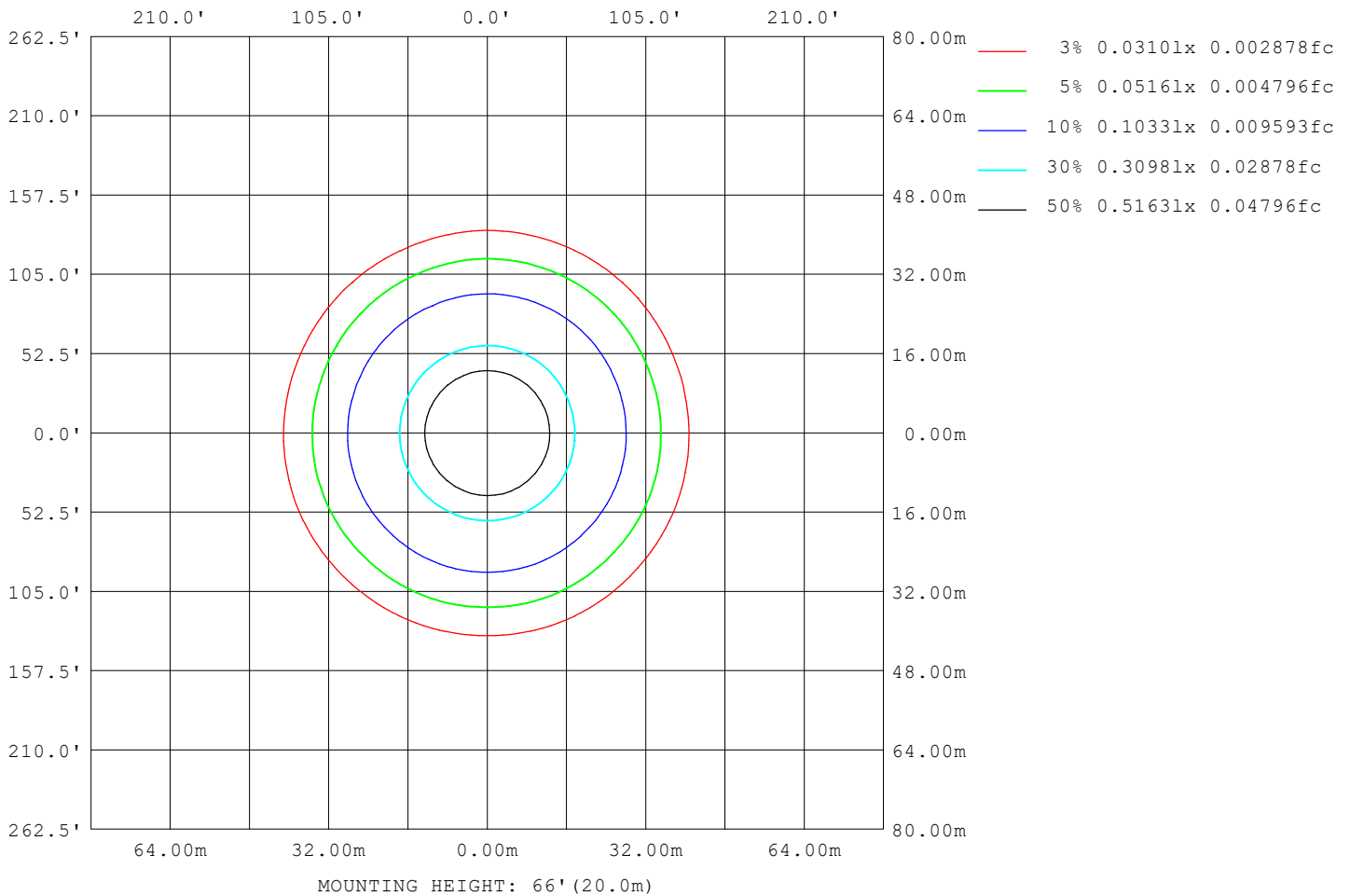
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3°C
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:119.84V I:0.1126A P:13.403W PF:0.9929 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1148.17x1 lm		
NAME: ASD-JFRB-MV-6D15WH	TYPE:	WEIGHT:
SPEC.: 5000K 90	DIM.:	SERIAL No.:
MFR.: ASD	SUR.:	Shielding Angle:

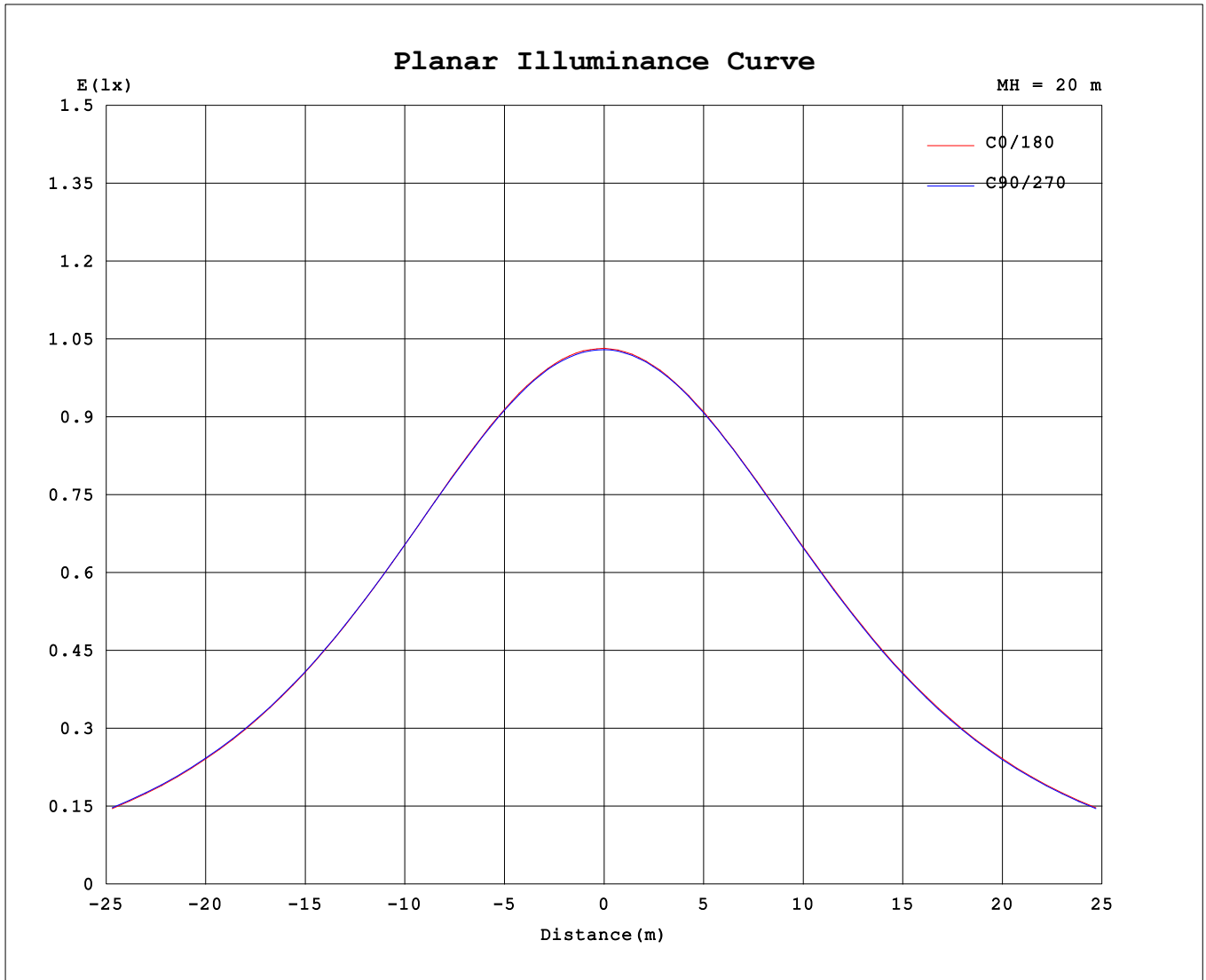
AvgL	cd/m2
L_0~180 (65) av	2945
L_0~180 (75) av	2388
L_0~180 (85) av	659
L_90~270 (65) av	2947
L_90~270 (75) av	2458
L_90~270 (85) av	1366
L_45 (65) av	2946
L_45 (75) av	2434
L_45 (85) av	988

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.3℃
 Operators:
 Test Date:2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.3 °C
 Operators:
 Test Date: 2024-01-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

