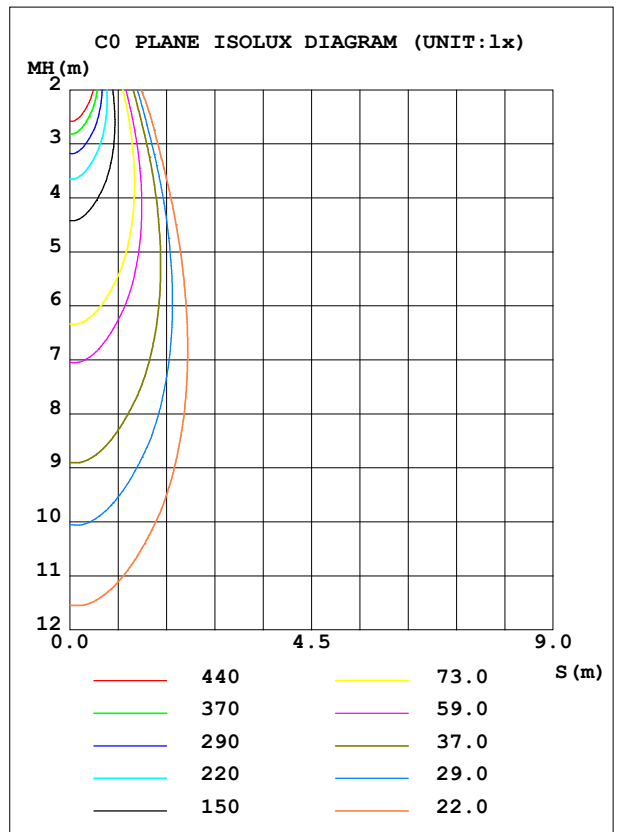
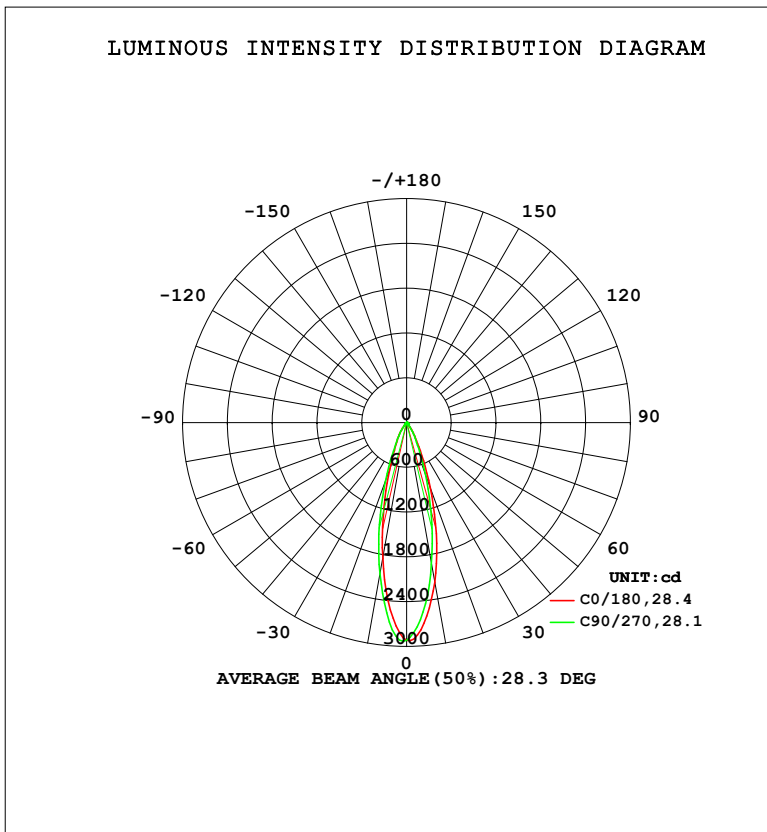


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 67.33 lm/W
MODEL		I _{max} (cd)	2945	S/MH (C0/180)		0.43
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)		0.49
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	938.86	η UP, DN (C0-180)		0.0, 50.3
NOMINAL FLUX (lm)	938.855	CIE CLASS	DIRECT	η UP, DN (C180-360)		0.0, 49.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX		0.50



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

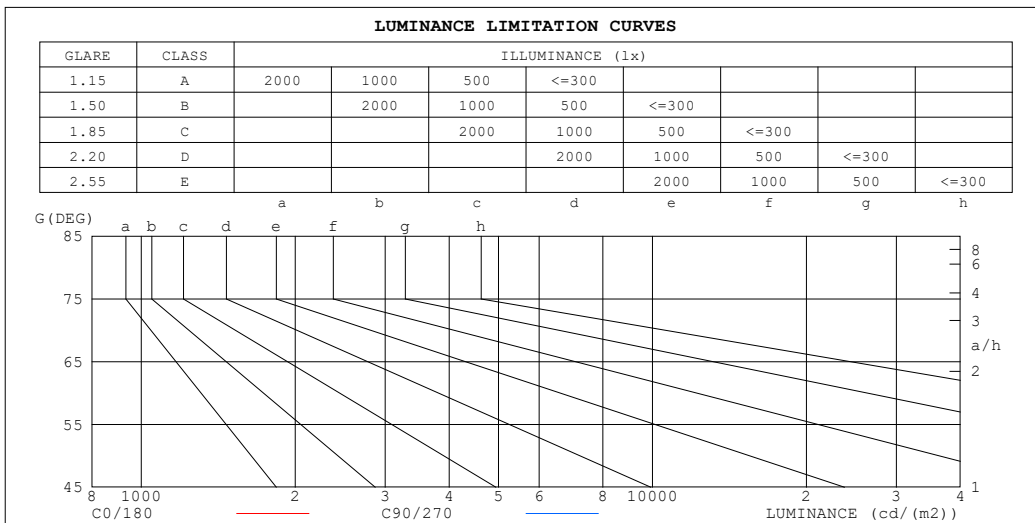
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2176	2237	1924	1831	1846	1809	2065	2120	0- 10	229.0	229.0	24.4,24.4
20	930.9	1011	740.2	659.3	675.5	668.3	836.4	917.6	10- 20	371.3	600.3	63.9,63.9
30	247.5	265.9	220.2	223.5	227.2	217.8	229.1	245.6	20- 30	203.3	803.7	85.6,85.6
40	49.91	53.29	43.70	43.24	43.99	41.97	48.16	48.18	30- 40	76.15	879.8	93.7,93.7
50	27.07	28.17	25.18	24.56	24.63	24.58	27.09	26.97	40- 50	26.11	905.9	96.5,96.5
60	14.46	14.91	13.30	13.39	13.45	13.01	14.06	14.41	50- 60	17.27	923.2	98.3,98.3
70	7.621	7.644	6.625	6.896	7.112	6.482	6.552	7.139	60- 70	9.932	933.1	99.4,99.4
80	2.815	2.583	2.070	2.392	2.656	2.022	1.961	2.272	70- 80	4.885	938.0	99.9,99.9
90	0.0448	0.0355	0.0444	0.0375	0.0359	0.0340	0.0344	0.0241	80- 90	0.8452	938.9	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:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	94	37
80	147	107
75	182	150
70	201	174
65	222	196
60	261	239
55	309	290
50	381	351
45	440	400

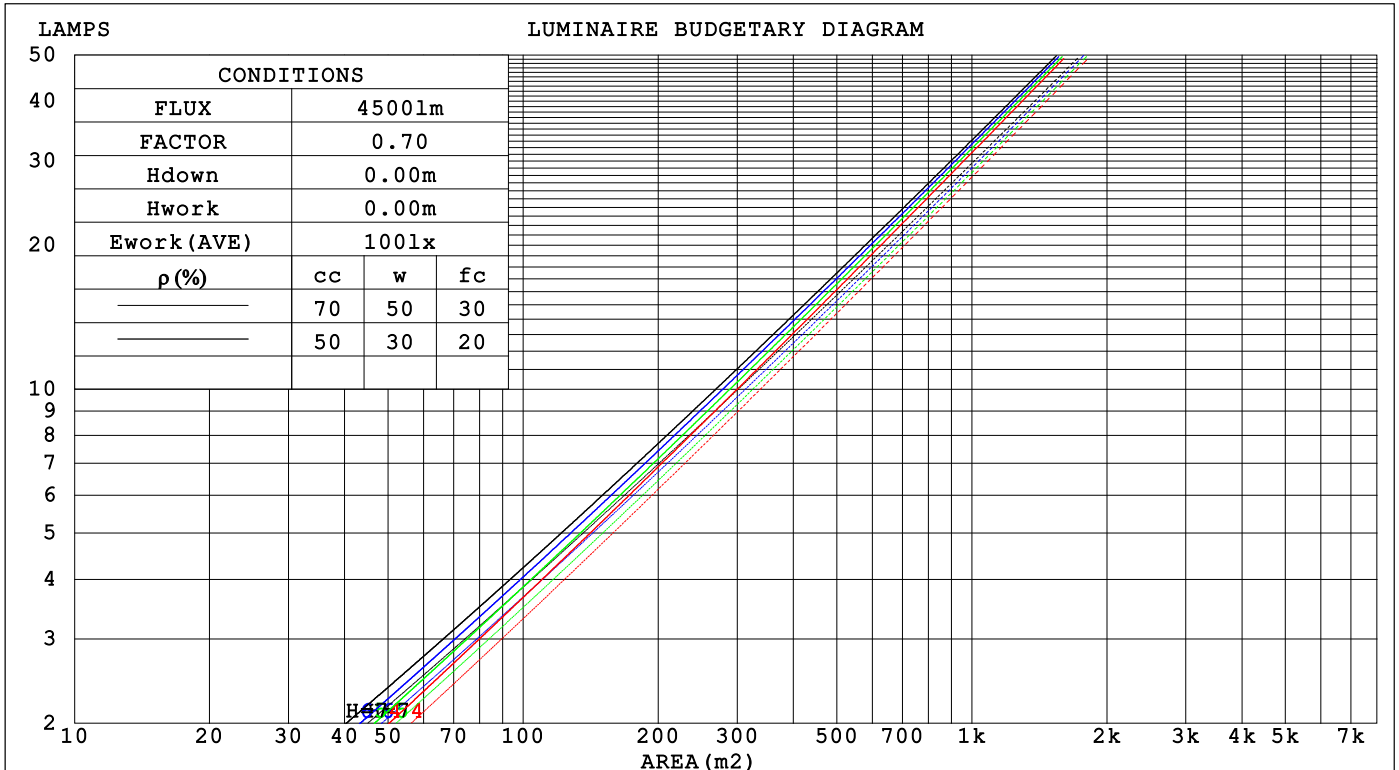
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	1.12	1.09	1.07	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.99	.98	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.00	.98	1.00	.98	.95	.97	.95	.93	.95	.93	.92	.90
3.0	.90	.95	.92	.98	.94	.91	.96	.92	.90	.93	.91	.88	.91	.89	.87	.85
4.0	.94	.90	.86	.93	.89	.86	.91	.88	.85	.89	.86	.84	.88	.85	.83	.81
5.0	.90	.85	.81	.89	.85	.81	.87	.83	.80	.86	.82	.80	.84	.81	.79	.78
6.0	.86	.81	.77	.85	.81	.77	.84	.80	.77	.83	.79	.76	.81	.78	.76	.74
7.0	.82	.77	.74	.82	.77	.74	.81	.76	.73	.79	.76	.73	.78	.75	.73	.71
8.0	.79	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.70	.69
9.0	.76	.71	.68	.76	.71	.68	.75	.70	.68	.74	.70	.67	.73	.70	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.68	.65	.71	.67	.65	.64



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	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	.160	.091	.029	.153	.087	.028	.140	.081	.026	.129	.074	.024	.118	.069	.022	
2.0	.150	.082	.025	.145	.080	.025	.134	.075	.023	.124	.070	.022	.116	.065	.021	
3.0	.141	.075	.022	.136	.073	.022	.127	.069	.021	.119	.065	.020	.112	.062	.019	
4.0	.133	.069	.020	.129	.067	.020	.121	.064	.019	.114	.061	.018	.108	.059	.018	
5.0	.125	.064	.018	.122	.063	.018	.115	.060	.018	.109	.058	.017	.104	.055	.017	
6.0	.119	.059	.017	.116	.058	.017	.110	.056	.016	.105	.054	.016	.100	.053	.016	
7.0	.113	.056	.016	.110	.055	.016	.105	.053	.015	.101	.052	.015	.096	.050	.015	
8.0	.107	.052	.015	.105	.052	.015	.101	.050	.014	.097	.049	.014	.093	.048	.014	
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013	
10.0	.098	.047	.013	.096	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.012	

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	.170	.157	.146	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.093	.120	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.017	.011	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.079	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.086	.052	.030	.074	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	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	3.9	4.7	4.1	4.9	5.0	3.6	4.4	3.8	4.5	4.7
3H	4.4	5.1	4.6	5.3	5.5	4.0	4.7	4.2	4.9	5.1
4H	4.6	5.3	4.8	5.5	5.7	4.1	4.8	4.4	5.0	5.3
6H	4.7	5.3	5.0	5.6	5.8	4.2	4.9	4.5	5.1	5.3
8H	4.7	5.3	5.0	5.6	5.8	4.2	4.8	4.5	5.1	5.3
12H	4.7	5.3	5.0	5.6	5.8	4.1	4.8	4.5	5.0	5.3
4H 2H	4.1	4.8	4.3	5.0	5.2	3.7	4.4	4.0	4.7	4.9
3H	4.6	5.2	5.0	5.5	5.8	4.3	4.9	4.6	5.2	5.4
4H	4.9	5.5	5.3	5.8	6.1	4.5	5.1	4.9	5.4	5.7
6H	5.1	5.6	5.5	5.9	6.3	4.6	5.1	5.0	5.5	5.8
8H	5.2	5.6	5.5	6.0	6.3	4.6	5.1	5.0	5.4	5.8
12H	5.2	5.6	5.6	5.9	6.3	4.6	5.0	5.0	5.4	5.8
8H 4H	5.0	5.4	5.4	5.8	6.1	4.6	5.0	5.0	5.4	5.8
6H	5.2	5.6	5.6	6.0	6.4	4.8	5.1	5.2	5.5	5.9
8H	5.3	5.6	5.7	6.0	6.5	4.8	5.1	5.2	5.5	6.0
12H	5.3	5.6	5.8	6.0	6.5	4.7	5.0	5.2	5.5	5.9
12H 4H	4.9	5.3	5.3	5.7	6.1	4.5	5.0	5.0	5.3	5.7
6H	5.2	5.5	5.6	5.9	6.4	4.7	5.1	5.2	5.5	5.9
8H	5.3	5.6	5.7	6.0	6.5	4.8	5.1	5.2	5.5	6.0

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 1.1 / - 0.9	+ 1.0 / - 1.0
1.5H	+ 1.8 / - 0.6	+ 1.5 / - 0.7
2.0H	+ 0.9 / - 0.8	+ 0.9 / - 1.0

CIE Pub.117, 938.9 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.2)
 Area: 0.111111 m2

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:

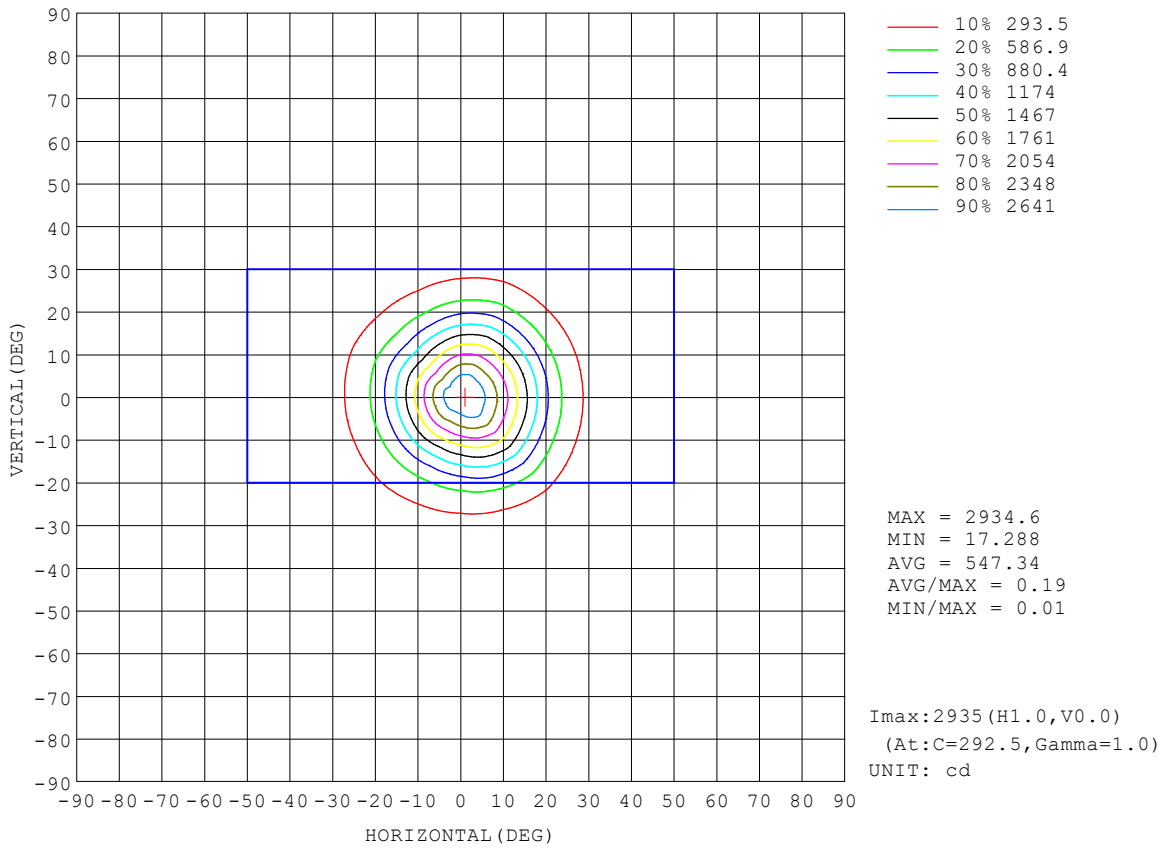
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	81	78	87	81	77	86	81	77	74
0.80	95	89	85	94	89	85	93	88	85	81
1.00	99	94	90	98	93	90	97	93	89	85
1.25	103	98	95	102	97	94	100	96	93	89
1.50	106	101	98	105	100	97	102	99	96	92
2.00	108	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	102	105	103	101	95
3.00	112	108	106	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
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:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:

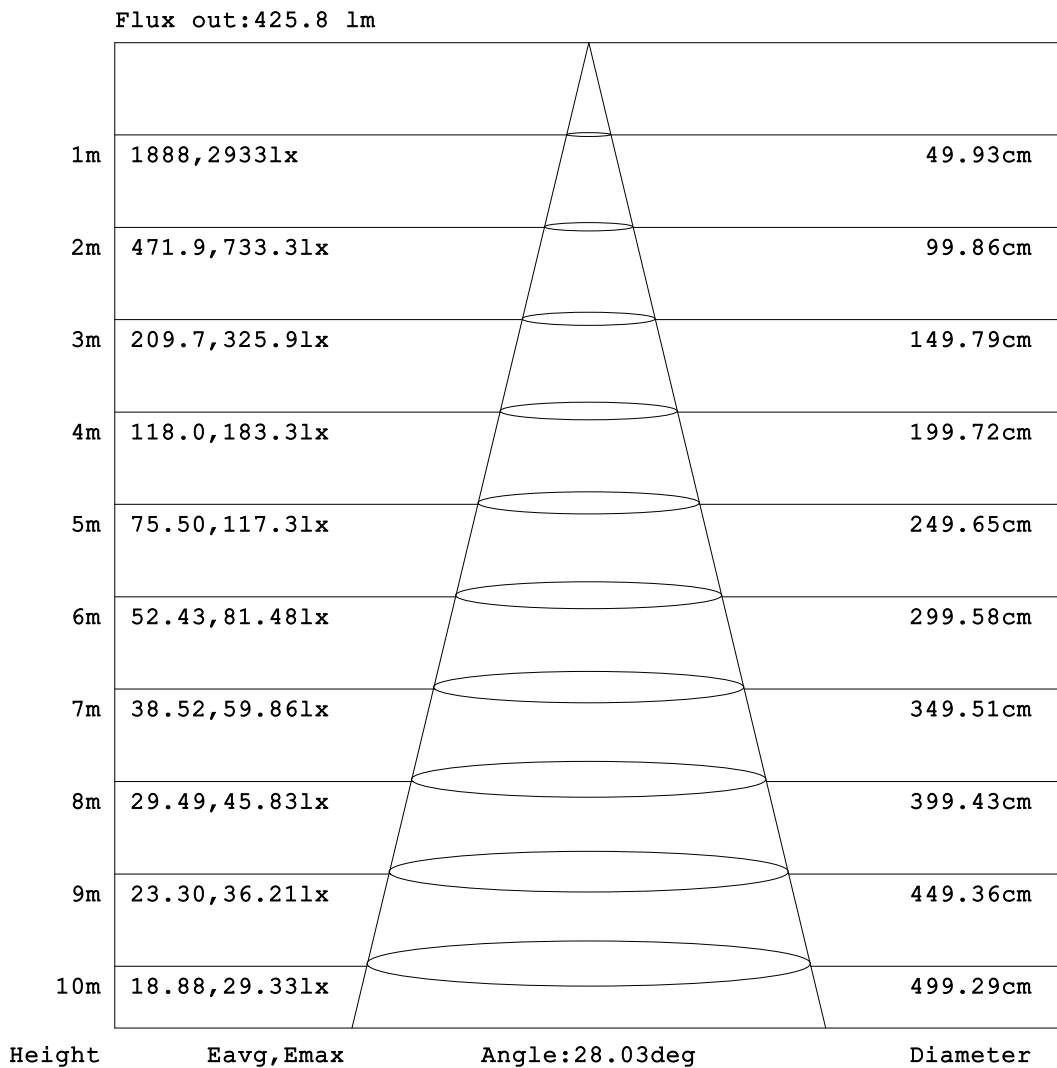


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

AAI Figure

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:



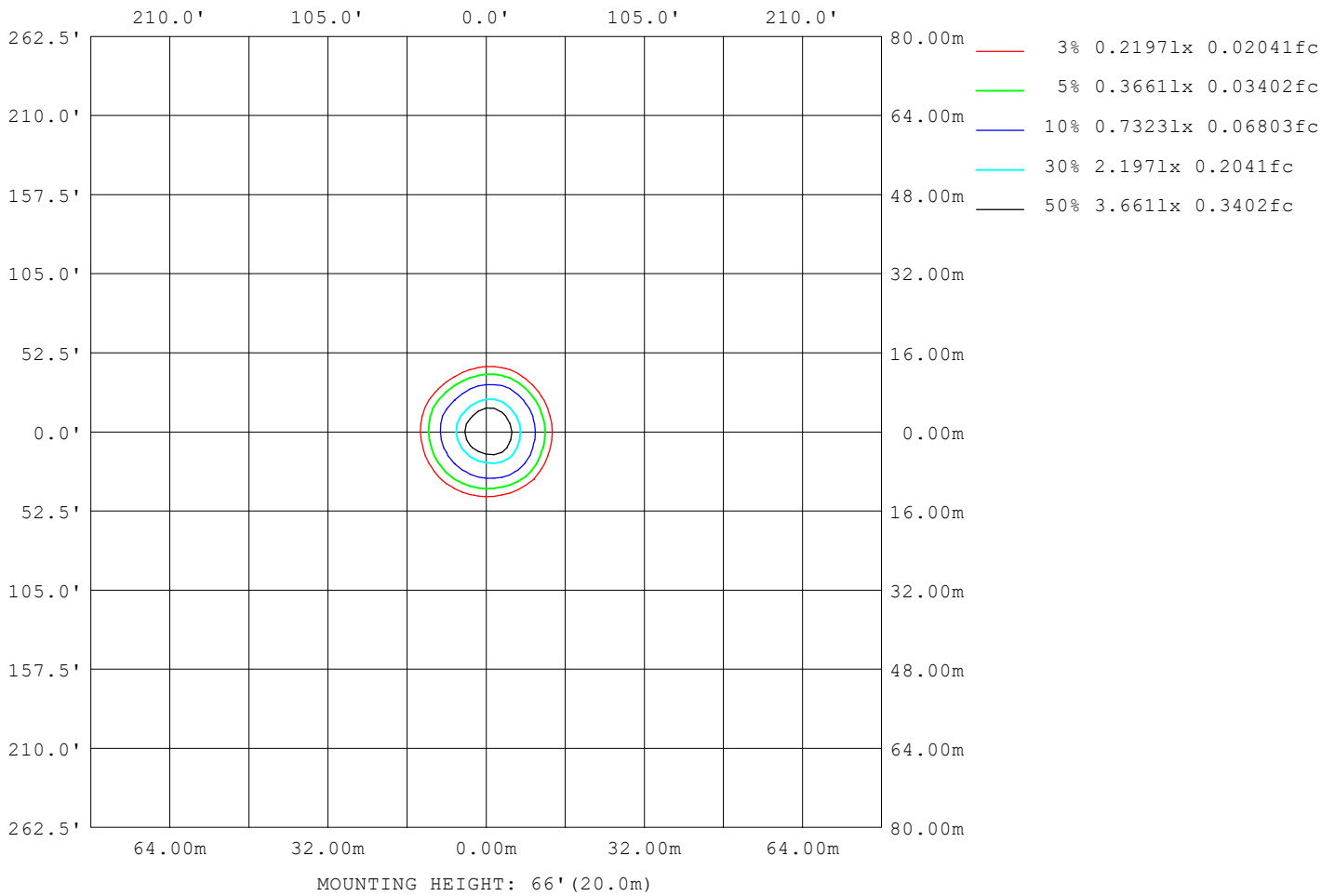
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:2022-10-14

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:119.86V I:0.1197A P:13.945W PF:0.9723 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:938.855x1 lm		
NAME: ASD-CD-TR-MV-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3000K 90	DIM.:	SERIAL No.:
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:

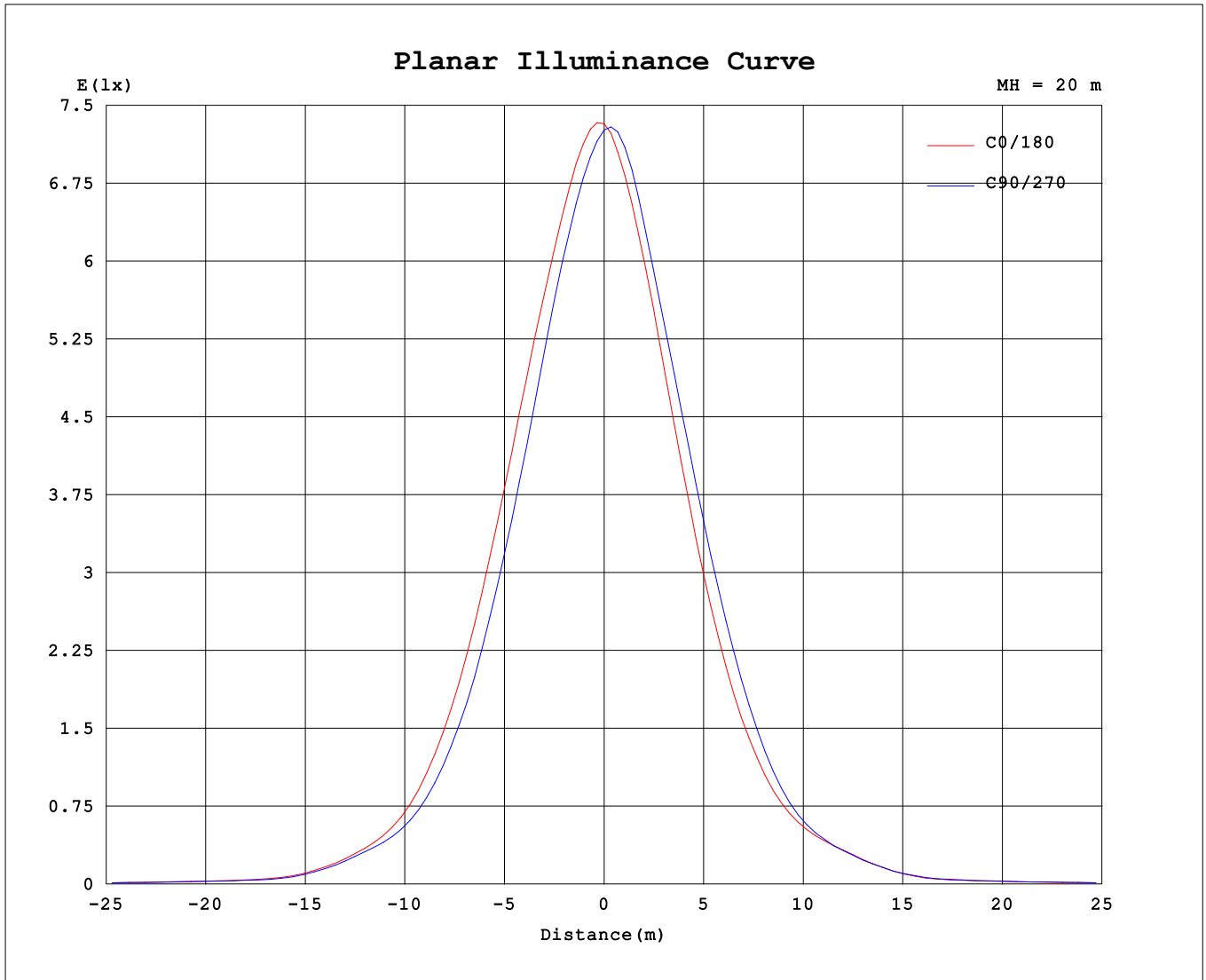
AvgL	cd/m2
L_0~180 (65) av	212
L_0~180 (75) av	176
L_0~180 (85) av	91
L_90~270 (65) av	199
L_90~270 (75) av	149
L_90~270 (85) av	32
L_45 (65) av	210
L_45 (75) av	162
L_45 (85) av	51

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:
 Test Date:2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-10-14

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

