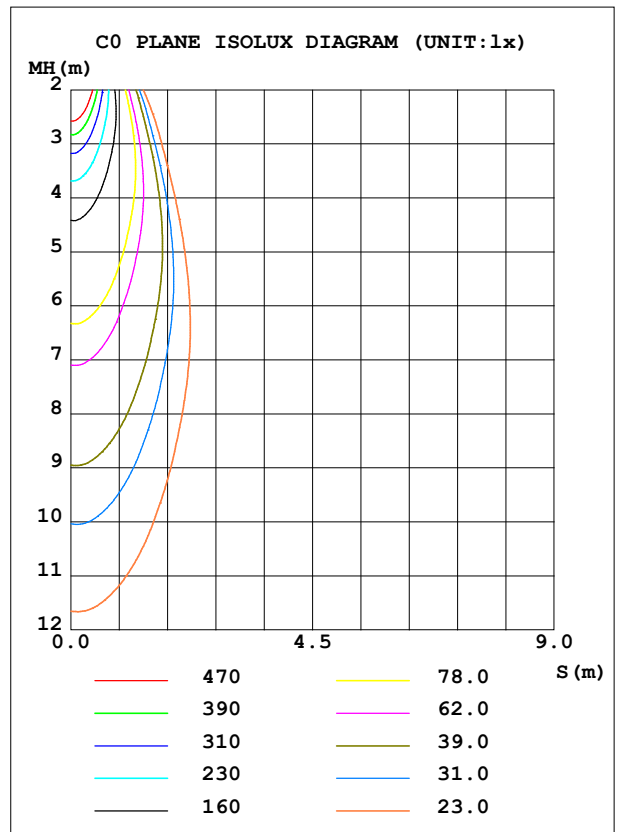
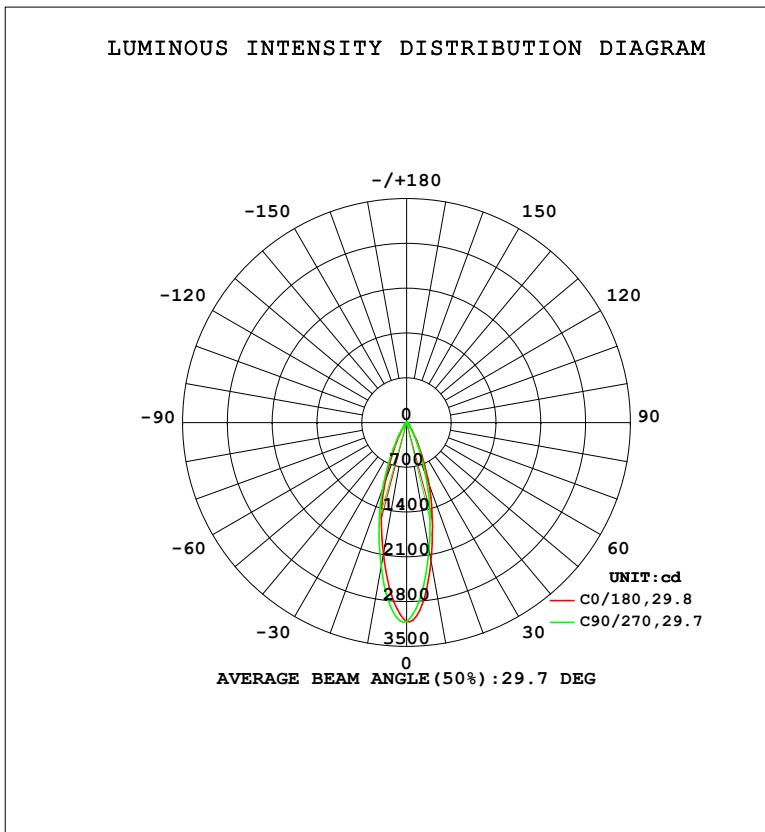


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	3146	S/MH (C0/180)	0.48
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.52
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1091.0	η UP, DN (C0-180)	0.0,47.7
NOMINAL FLUX (lm)	1090.99	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,52.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	0.55



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-11-23

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:

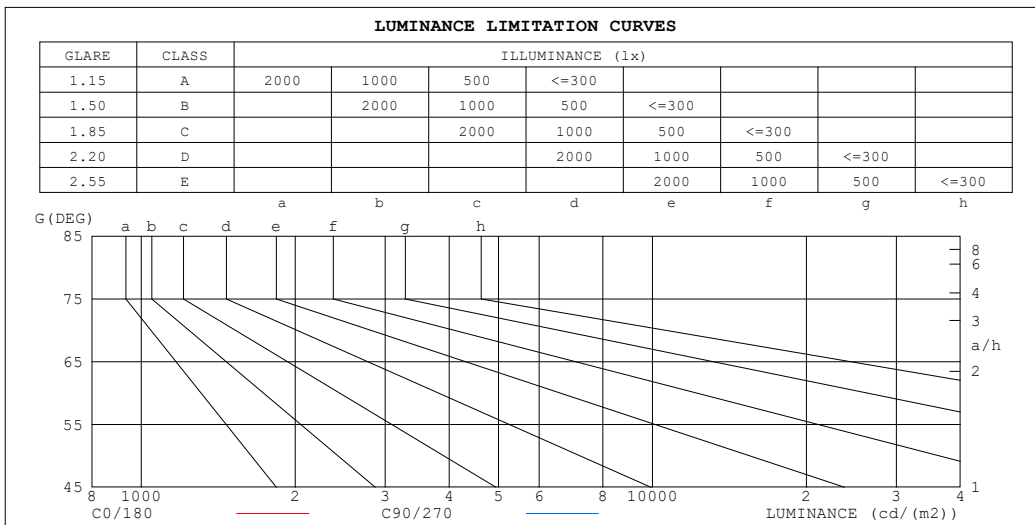
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2199	2139	2023	1974	2094	2169	2290	2373	0- 10	245.5	245.5	22.5,22.5
20	1026	981.1	875.8	829.8	990.0	1031	1104	1166	10- 20	424.6	670.0	61.4,61.4
30	291.8	291.6	259.4	230.0	247.5	274.9	308.2	343.8	20- 30	256.7	926.8	84.9,84.9
40	66.06	69.41	60.34	60.89	61.44	63.88	66.01	67.01	30- 40	86.52	1013	92.9,92.9
50	34.17	35.01	32.38	33.06	32.45	33.21	33.79	34.87	40- 50	37.32	1051	96.3,96.3
60	15.85	15.66	15.22	15.72	15.03	15.04	15.42	15.91	50- 60	21.88	1072	98.3,98.3
70	7.724	7.538	7.400	8.026	7.408	7.221	7.360	7.677	60- 70	11.11	1084	99.3,99.3
80	3.836	3.720	3.674	4.467	3.981	3.491	3.653	3.690	70- 80	5.526	1089	99.8,99.8
90	0.0615	0.0518	0.0502	0.0608	0.0433	0.0374	0.0323	0.0454	80- 90	1.860	1091	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:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	218	155
80	200	191
75	175	171
70	204	195
65	248	236
60	287	274
55	395	373
50	481	454
45	624	582

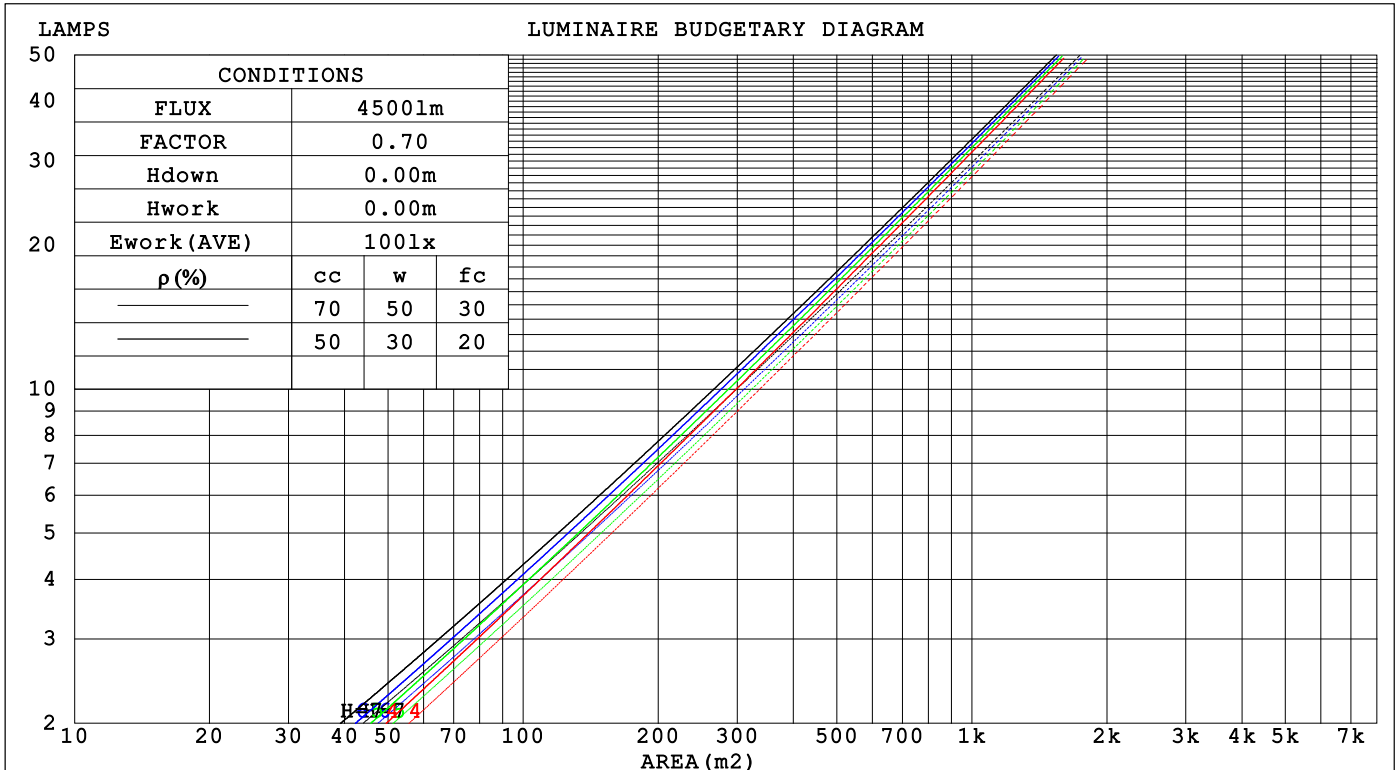
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz		
UTHdi:0.00% ITHdi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	1.00	.97	.95	.97	.95	.93	.94	.93	.91	.90
3.0	.99	.95	.91	.98	.94	.90	.95	.92	.89	.93	.90	.88	.91	.88	.86	.85
4.0	.94	.89	.85	.93	.88	.85	.91	.87	.84	.89	.86	.83	.87	.84	.82	.81
5.0	.89	.84	.81	.88	.84	.80	.87	.83	.79	.85	.82	.79	.84	.81	.78	.77
6.0	.85	.80	.76	.84	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.75	.73
7.0	.81	.76	.73	.81	.76	.73	.80	.75	.72	.78	.75	.72	.77	.74	.71	.70
8.0	.78	.73	.69	.77	.73	.69	.76	.72	.69	.75	.72	.69	.75	.71	.68	.67
9.0	.75	.70	.67	.74	.70	.66	.74	.69	.66	.73	.69	.66	.72	.68	.66	.65
10.0	.72	.67	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.69	.66	.63	.62



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 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	.163	.093	.029	.156	.089	.028	.144	.082	.026	.132	.076	.024	.122	.070	.023	
2.0	.153	.084	.026	.148	.081	.025	.137	.076	.024	.127	.072	.022	.119	.067	.021	
3.0	.144	.077	.023	.139	.075	.022	.130	.071	.021	.122	.067	.021	.115	.063	.020	
4.0	.135	.070	.021	.131	.069	.020	.124	.066	.020	.117	.063	.019	.110	.060	.018	
5.0	.128	.065	.019	.125	.064	.019	.118	.061	.018	.112	.059	.018	.106	.057	.017	
6.0	.121	.061	.017	.118	.060	.017	.113	.058	.017	.107	.056	.016	.102	.054	.016	
7.0	.115	.057	.016	.113	.056	.016	.108	.054	.016	.103	.053	.015	.099	.051	.015	
8.0	.110	.054	.015	.108	.053	.015	.103	.052	.015	.099	.050	.014	.095	.049	.014	
9.0	.105	.051	.014	.103	.050	.014	.099	.049	.014	.095	.048	.014	.092	.047	.013	
10.0	.101	.048	.013	.099	.048	.013	.095	.047	.013	.092	.046	.013	.089	.045	.013	

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	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.092	.120	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.098	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.119	.087	.062	.102	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.111	.077	.052	.095	.067	.046	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.104	.069	.045	.089	.060	.039	.062	.042	.028	.036	.025	.016	.012	.008	.005	
8.0	.098	.063	.038	.084	.054	.033	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.092	.057	.033	.079	.050	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.087	.053	.029	.075	.046	.026	.052	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 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	4.8	5.6	5.0	5.7	5.9	3.4	4.2	3.6	4.3	4.5
3H	5.0	5.8	5.3	6.0	6.1	3.7	4.4	3.9	4.6	4.8
4H	5.1	5.8	5.4	6.0	6.2	3.8	4.5	4.1	4.7	5.0
6H	5.2	5.9	5.5	6.1	6.3	4.0	4.7	4.3	4.9	5.1
8H	5.3	5.9	5.6	6.2	6.4	4.1	4.7	4.4	5.0	5.2
12H	5.3	5.9	5.6	6.2	6.5	4.1	4.7	4.4	5.0	5.2
4H 2H	4.8	5.5	5.0	5.7	5.9	3.5	4.2	3.8	4.4	4.7
3H	5.1	5.8	5.4	6.0	6.3	3.9	4.6	4.3	4.8	5.1
4H	5.3	5.9	5.6	6.2	6.5	4.1	4.7	4.5	5.0	5.3
6H	5.5	6.0	5.9	6.3	6.7	4.4	4.9	4.8	5.2	5.6
8H	5.6	6.1	6.0	6.4	6.8	4.5	5.0	4.9	5.3	5.7
12H	5.7	6.1	6.1	6.5	6.9	4.6	5.0	5.0	5.4	5.8
8H 4H	5.3	5.7	5.7	6.1	6.5	4.2	4.6	4.6	5.0	5.4
6H	5.6	6.0	6.0	6.4	6.8	4.6	4.9	5.0	5.3	5.8
8H	5.7	6.1	6.2	6.5	6.9	4.8	5.1	5.2	5.5	5.9
12H	5.9	6.2	6.4	6.6	7.1	4.9	5.2	5.4	5.6	6.1
12H 4H	5.3	5.7	5.7	6.1	6.4	4.2	4.6	4.6	5.0	5.3
6H	5.6	5.9	6.0	6.3	6.8	4.6	4.9	5.0	5.3	5.8
8H	5.8	6.1	6.2	6.5	7.0	4.8	5.1	5.3	5.5	6.0

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 1.1 / - 1.3	+ 1.0 / - 0.9
1.5H	+ 1.7 / - 1.1	+ 1.3 / - 0.6
2.0H	+ 1.6 / - 1.4	+ 1.4 / - 1.0

CIE Pub.117, 1091 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.3)
 Area: 0.111111 m2

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

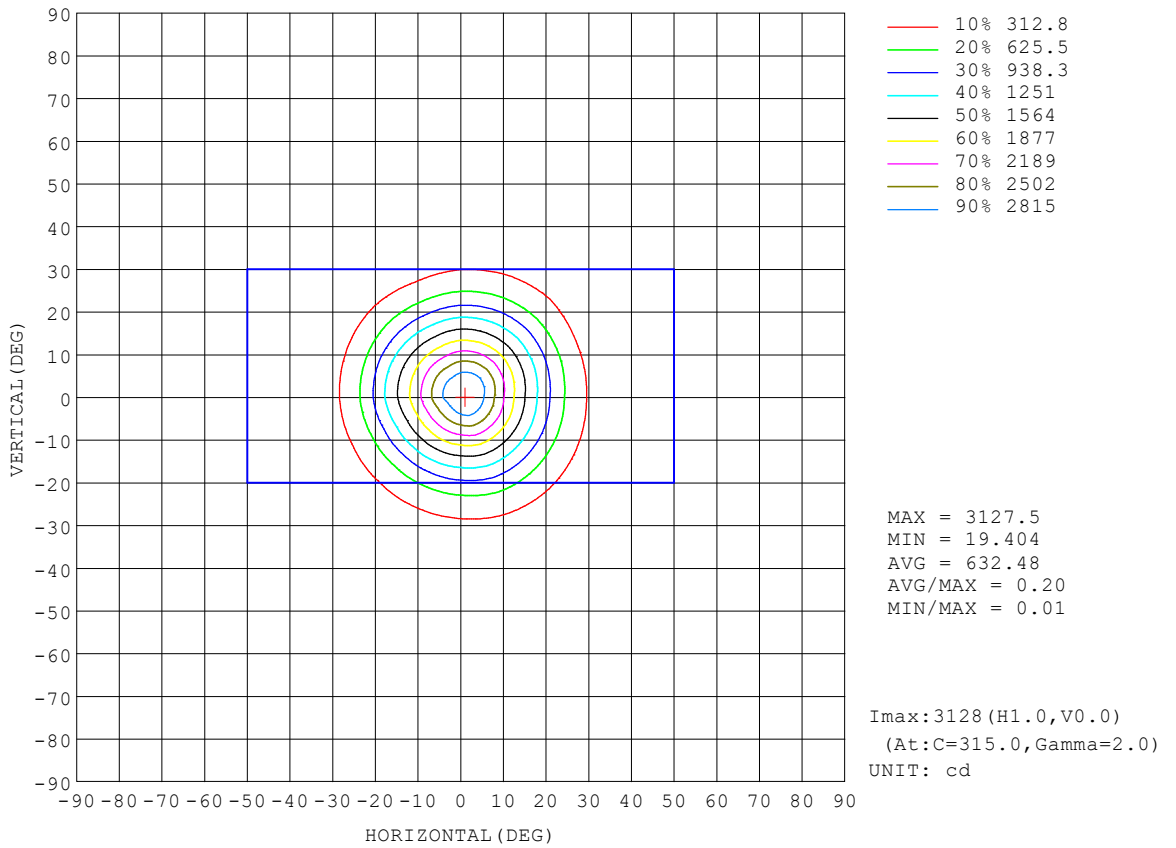
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	95	89	85	94	88	85	93	88	84	81
1.00	99	93	90	98	93	89	96	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	97	104	100	97	102	99	96	91
2.00	108	104	101	107	103	100	104	101	99	93
2.50	110	106	103	108	105	102	105	103	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	105	97
5.00	115	113	111	113	111	109	109	107	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: 2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

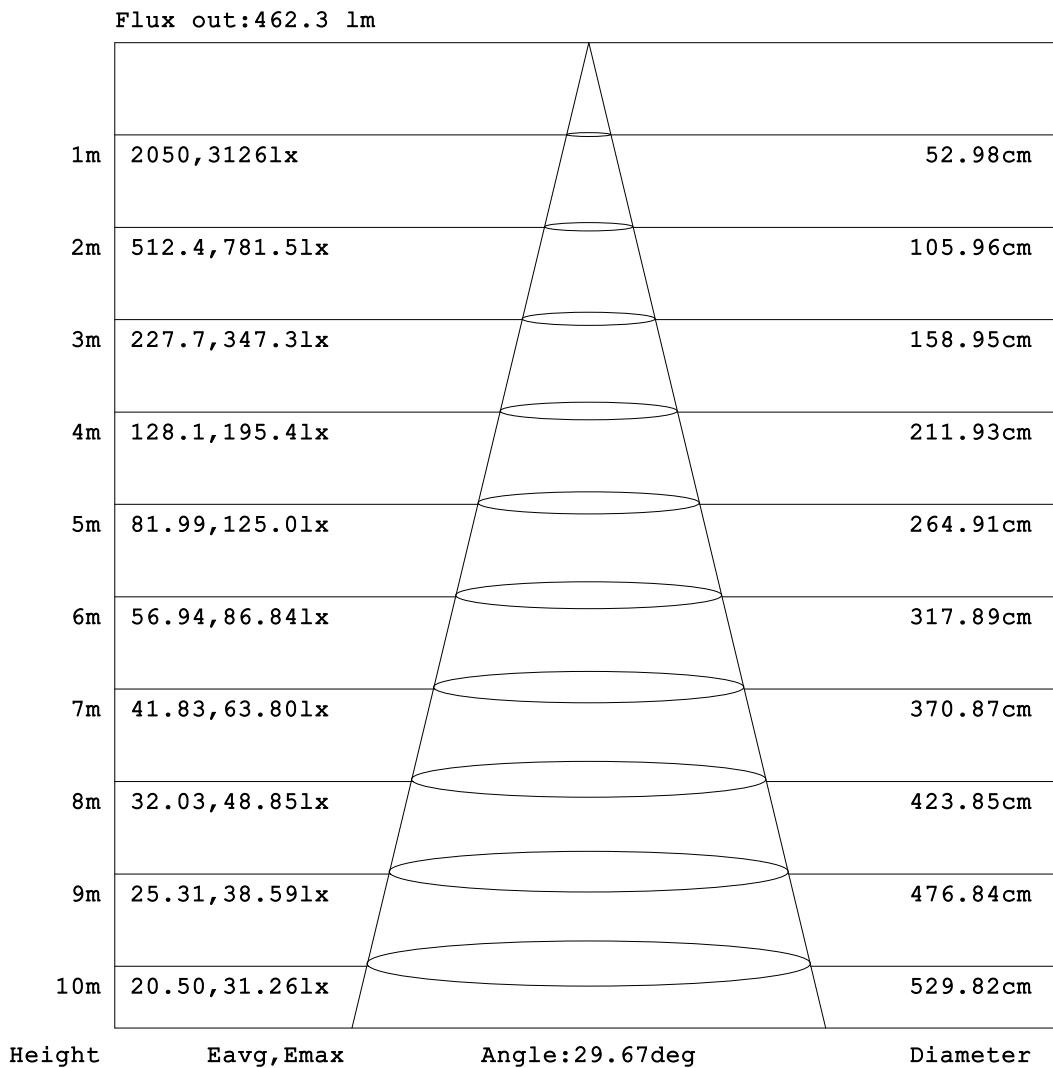


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:



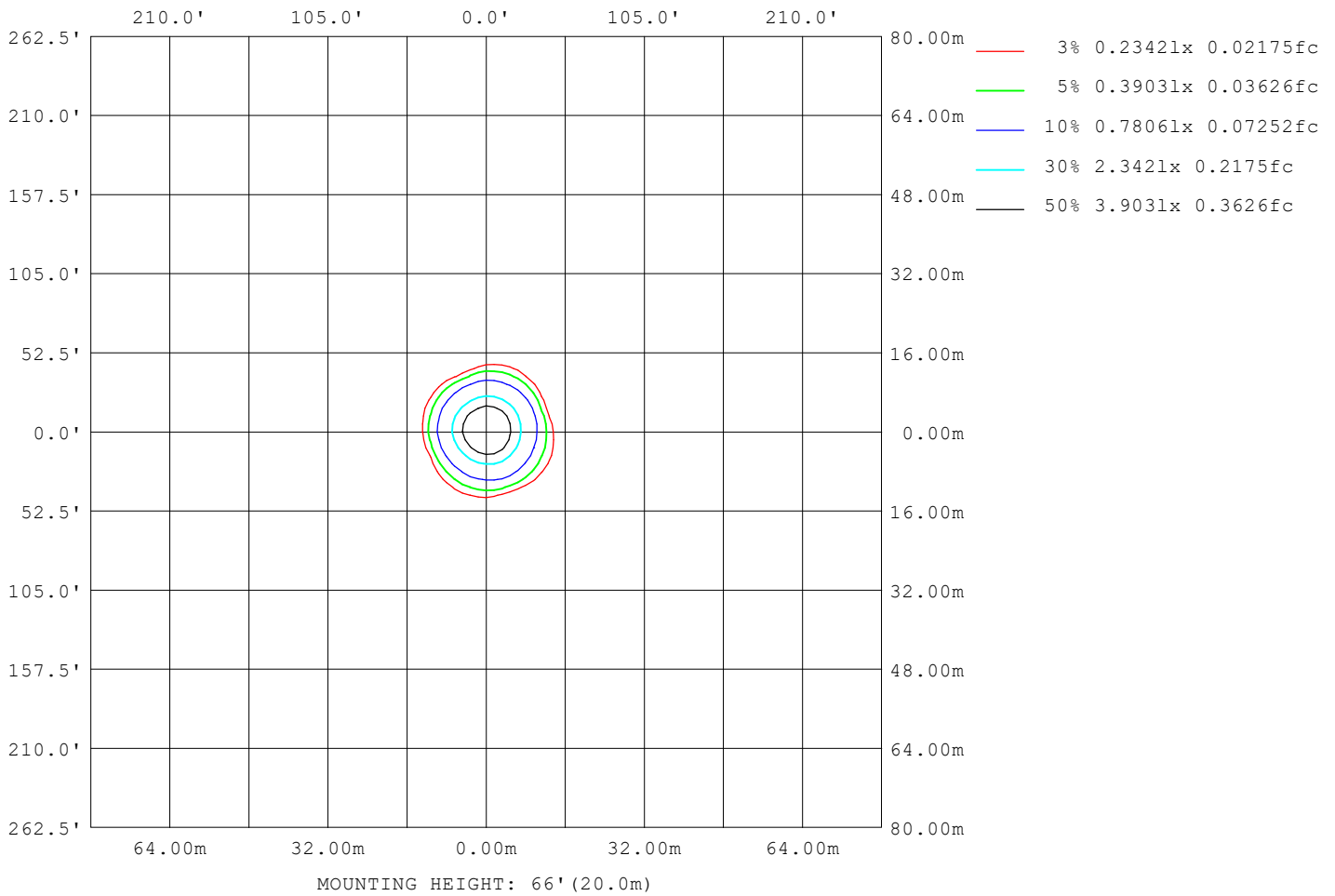
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 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:2022-11-23

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:119.85V I:0.1104A P:13.037W PF:0.9849 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1090.99x1 lm		
NAME: ASD-CD-TS-4D15AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

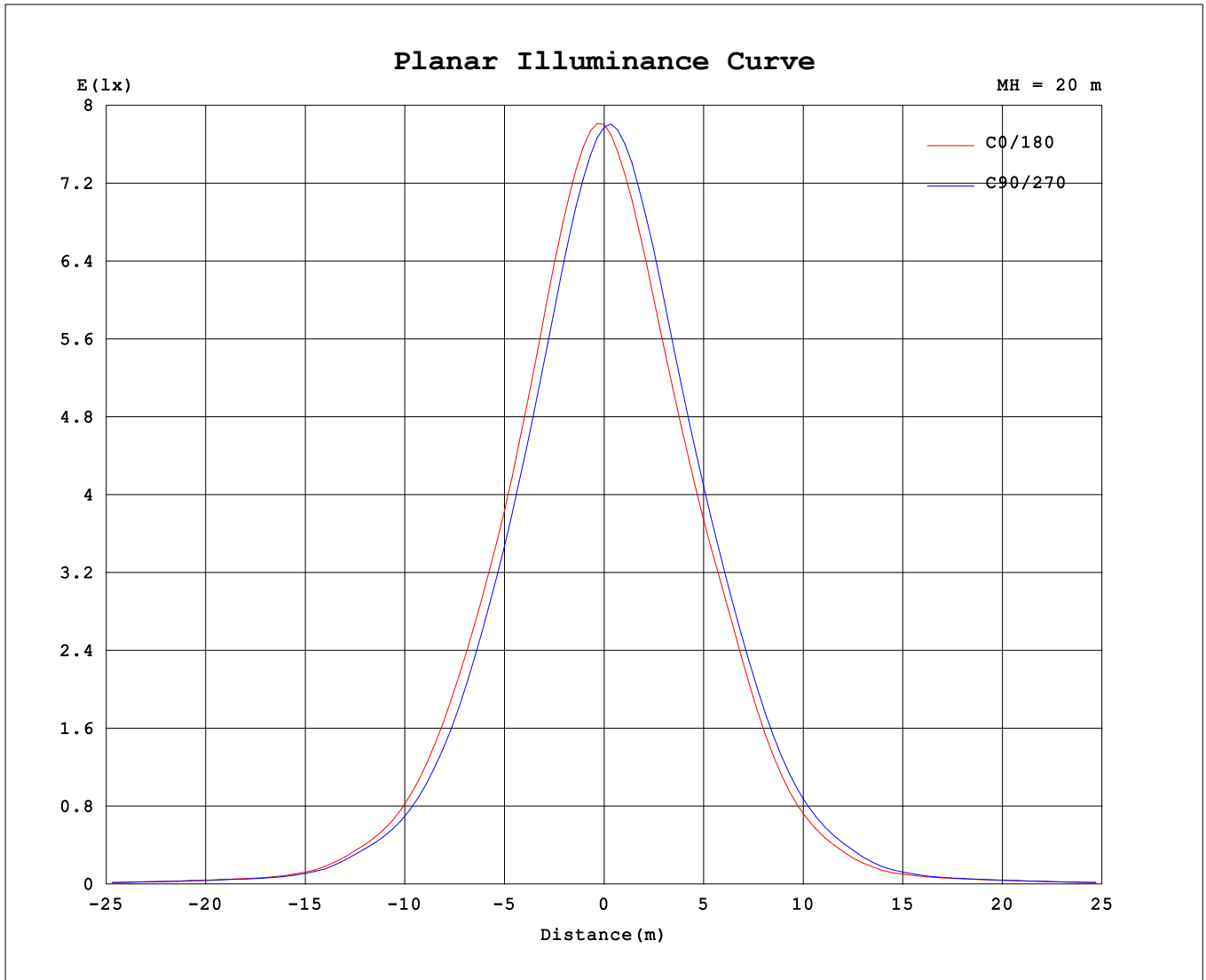
AvgL	cd/m2
L_0~180 (65) av	241
L_0~180 (75) av	175
L_0~180 (85) av	203
L_90~270 (65) av	237
L_90~270 (75) av	170
L_90~270 (85) av	147
L_45 (65) av	242
L_45 (75) av	176
L_45 (85) av	175

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:
 Test Date:2022-11-23

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: 2022-11-23

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:

