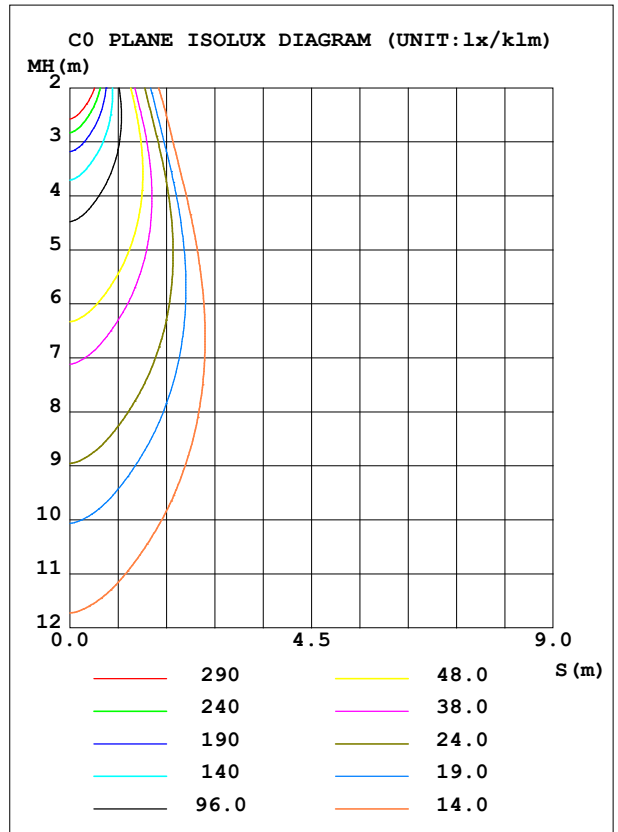
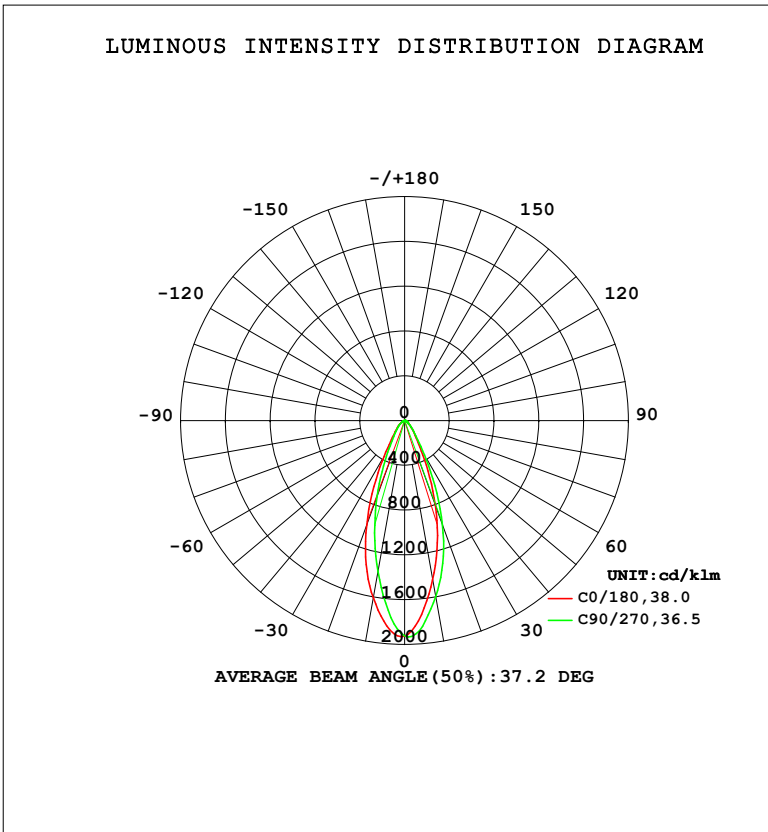


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 95.74 lm/W
MODEL		I <sub>max</sub> (cd/klm)	1943	S/MH (C0/180)		0.66
NOMINAL POWER (W)	17	LOR (%)	100.0	S/MH (C90/270)		0.52
RATED VOLTAGE (V)	120	TOTAL FLUX (lm/klm)	1000.00	η UP, DN (C0-180)		0.0,52.4
NOMINAL FLUX (lm)	1599.29	CIE CLASS	DIRECT	η UP, DN (C180-360)		0.0,47.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX		0.65



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators:  
 Test Date: 2023-07-13

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:

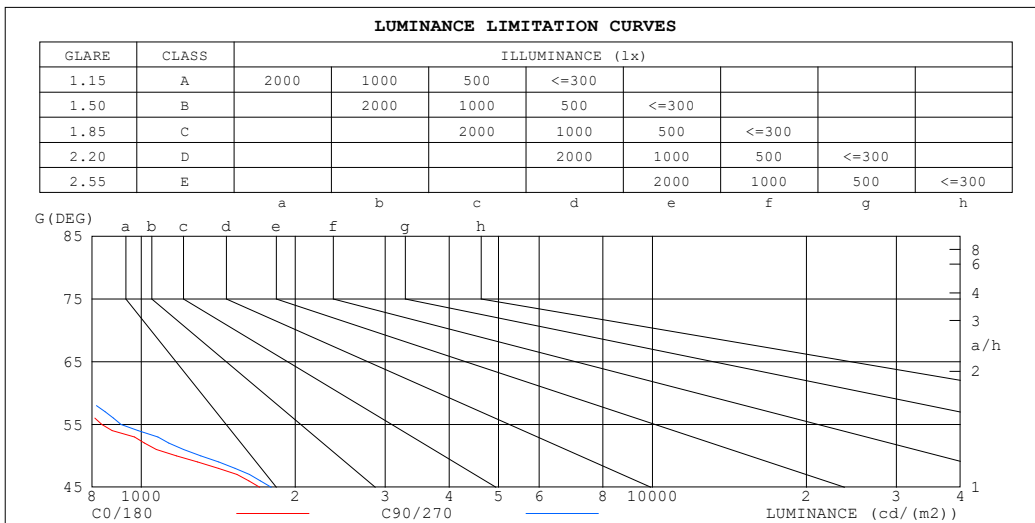
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	1445	1541	1596	1613	1610	1486	1372	1387	0- 10	161.0	161.0	16.1,16.1
20	805.6	920.5	992.4	1001	993.0	843.0	723.4	737.0	10- 20	330.8	491.8	49.2,49.2
30	276.4	321.1	356.1	351.2	370.1	297.4	260.9	256.4	20- 30	254.6	746.4	74.6,74.6
40	118.6	123.3	125.9	129.9	133.6	123.8	118.3	118.9	30- 40	120.5	866.9	86.7,86.7
50	52.33	53.07	58.34	64.72	68.60	66.30	64.56	61.87	40- 50	68.82	935.7	93.6,93.6
60	24.48	24.95	26.34	28.44	30.79	29.62	27.79	26.03	50- 60	36.61	972.3	97.2,97.2
70	10.19	10.46	11.57	12.91	13.48	13.58	12.80	11.63	60- 70	18.99	991.3	99.1,99.1
80	2.862	2.897	3.217	3.492	3.885	4.019	3.911	3.372	70- 80	7.015	998.3	99.8,99.8
90	0.0677	0.0615	0.0670	0.0603	0.0465	0.0409	0.0490	0.0465	80- 90	1.660	1000.0	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/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-07-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-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	146	244
80	237	267
75	250	313
70	429	487
65	565	610
60	705	758
55	837	913
50	1172	1306
45	1704	1796

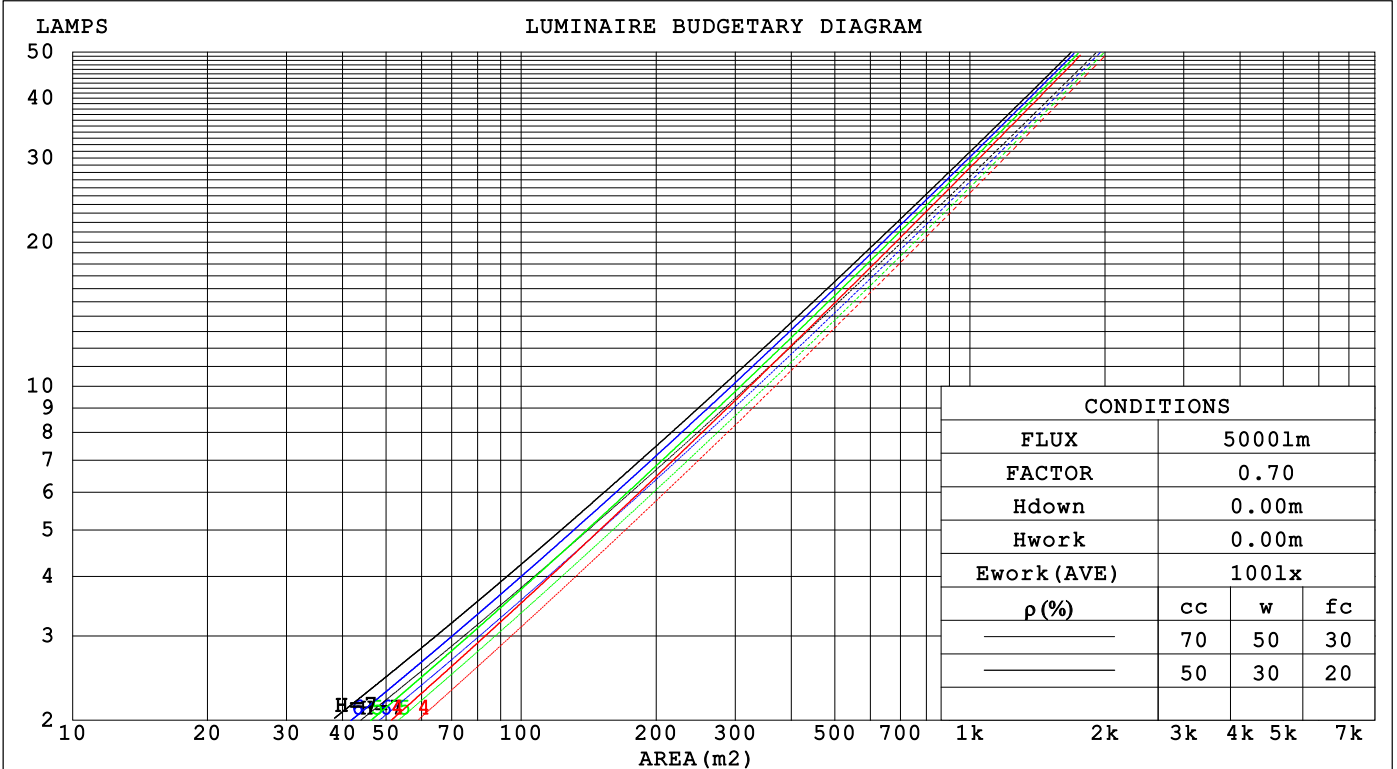
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 2023-07-13

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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.00
1.0	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.98	.94	.98	.95	.92	.95	.93	.90	.92	.90	.88	.87
3.0	.96	.91	.87	.95	.90	.87	.92	.88	.85	.90	.86	.84	.87	.85	.83	.81
4.0	.90	.85	.81	.89	.84	.80	.87	.83	.79	.85	.81	.78	.83	.80	.77	.76
5.0	.85	.79	.75	.84	.79	.75	.82	.77	.74	.80	.76	.73	.79	.75	.73	.71
6.0	.80	.74	.70	.79	.74	.70	.78	.73	.69	.76	.72	.69	.75	.71	.68	.67
7.0	.76	.70	.66	.75	.70	.66	.74	.69	.65	.73	.68	.65	.72	.68	.65	.63
8.0	.72	.66	.62	.71	.66	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.60
9.0	.68	.63	.59	.68	.63	.59	.67	.62	.59	.66	.62	.59	.65	.61	.58	.57
10.0	.65	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.63	.59	.56	.54



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3 °C  
 Operators:  
 Test Date:2023-07-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.181	.103	.033	.174	.099	.032	.161	.093	.030	.150	.086	.028	.139	.081	.026	
2.0	.172	.094	.029	.166	.092	.028	.156	.087	.027	.146	.082	.026	.137	.077	.024	
3.0	.163	.087	.026	.158	.084	.025	.149	.081	.024	.140	.077	.024	.133	.073	.023	
4.0	.154	.080	.023	.149	.078	.023	.142	.075	.022	.134	.072	.022	.128	.069	.021	
5.0	.145	.074	.021	.142	.073	.021	.135	.070	.021	.129	.068	.020	.123	.066	.020	
6.0	.138	.069	.020	.135	.068	.020	.129	.066	.019	.123	.064	.019	.118	.062	.018	
7.0	.131	.065	.018	.128	.064	.018	.123	.062	.018	.118	.060	.018	.113	.059	.017	
8.0	.124	.061	.017	.122	.060	.017	.117	.059	.017	.113	.057	.017	.109	.056	.016	
9.0	.119	.057	.016	.117	.057	.016	.112	.056	.016	.108	.054	.016	.105	.053	.015	
10.0	.113	.054	.015	.112	.054	.015	.108	.053	.015	.104	.052	.015	.101	.051	.015	

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.171	.157	.145	.147	.135	.124	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.123	.098	.078	.085	.068	.054	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.079	.060	.044	.045	.035	.026	.015	.011	.009	
5.0	.124	.087	.060	.107	.075	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.100	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.110	.070	.042	.094	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.104	.064	.037	.089	.055	.032	.062	.039	.023	.036	.023	.013	.012	.008	.004	
9.0	.098	.059	.032	.085	.051	.028	.059	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.094	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-07-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-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	7.2	8.1	7.4	8.3	8.4	7.6	8.6	7.8	8.7	8.9
3H	7.4	8.3	7.7	8.5	8.7	7.9	8.8	8.2	9.0	9.2
4H	7.5	8.3	7.7	8.5	8.7	7.9	8.8	8.2	9.0	9.2
6H	7.4	8.2	7.7	8.4	8.7	7.9	8.7	8.2	8.9	9.2
8H	7.4	8.2	7.7	8.4	8.7	7.9	8.6	8.2	8.9	9.2
12H	7.4	8.1	7.7	8.4	8.6	7.9	8.6	8.2	8.9	9.1
4H 2H	7.3	8.1	7.5	8.3	8.5	7.7	8.5	7.9	8.7	8.9
3H	7.6	8.3	7.9	8.6	8.9	8.0	8.7	8.4	9.0	9.3
4H	7.7	8.3	8.0	8.6	8.9	8.1	8.7	8.4	9.0	9.3
6H	7.7	8.2	8.0	8.6	8.9	8.1	8.7	8.5	9.0	9.4
8H	7.7	8.2	8.1	8.5	8.9	8.1	8.6	8.5	9.0	9.4
12H	7.6	8.1	8.0	8.5	8.9	8.1	8.6	8.5	9.0	9.4
8H 4H	7.6	8.1	8.0	8.5	8.8	8.0	8.6	8.4	8.9	9.3
6H	7.6	8.1	8.1	8.5	8.9	8.1	8.5	8.5	8.9	9.3
8H	7.7	8.0	8.1	8.5	8.9	8.1	8.5	8.5	8.9	9.3
12H	7.6	8.0	8.1	8.4	8.9	8.1	8.4	8.6	8.9	9.4
12H 4H	7.6	8.0	8.0	8.4	8.8	8.0	8.5	8.4	8.8	9.2
6H	7.6	8.0	8.1	8.4	8.9	8.0	8.4	8.5	8.8	9.3
8H	7.6	8.0	8.1	8.4	8.9	8.1	8.4	8.5	8.8	9.3

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 1.3 / - 1.9	+ 1.2 / - 1.8
1.5H	+ 1.6 / - 1.5	+ 1.7 / - 1.6
2.0H	+ 2.7 / - 1.7	+ 2.6 / - 1.7

CIE Pub.117, 1599 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.6)  
 Area: 0.111111 m2

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-07-13

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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

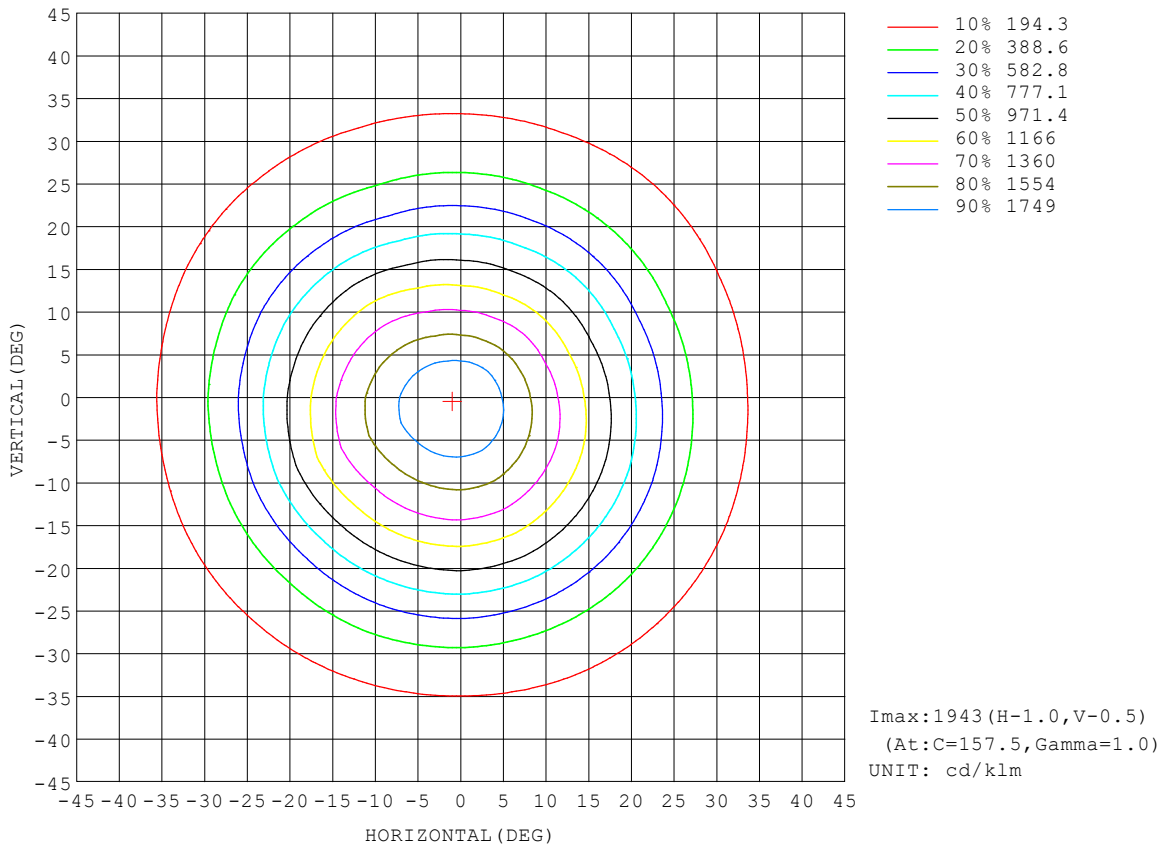
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	76	72	83	76	72	82	76	72	68
0.80	91	84	80	90	84	80	89	84	80	76
1.00	96	90	86	95	89	86	94	90	85	81
1.25	101	95	91	100	94	91	98	93	90	85
1.50	104	98	95	102	98	94	100	96	93	88
2.00	107	102	99	106	101	98	103	99	96	91
2.50	109	105	101	107	103	100	104	101	99	92
3.00	111	107	104	109	105	103	105	103	101	94
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	106	105	97
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:2023-07-13

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



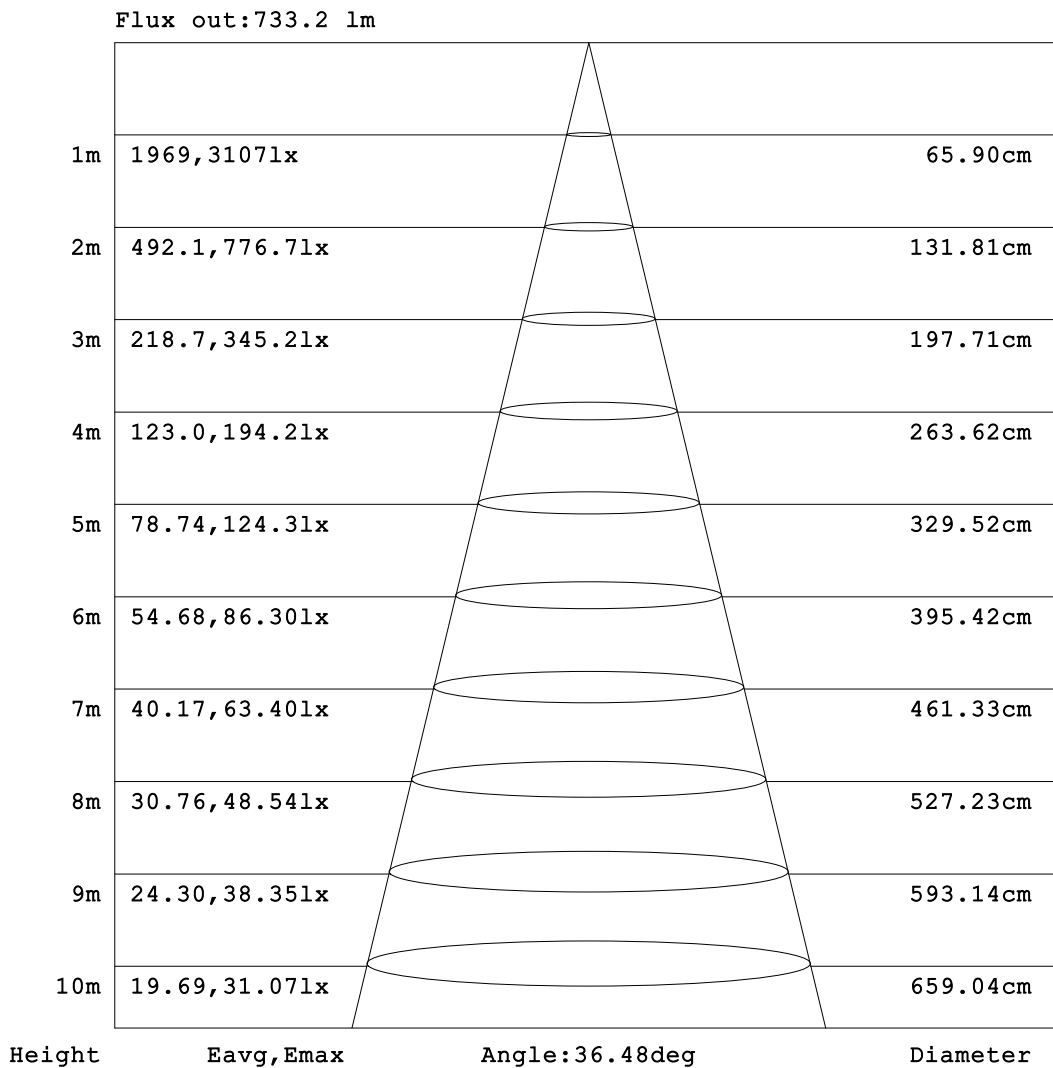
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2023-07-13

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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



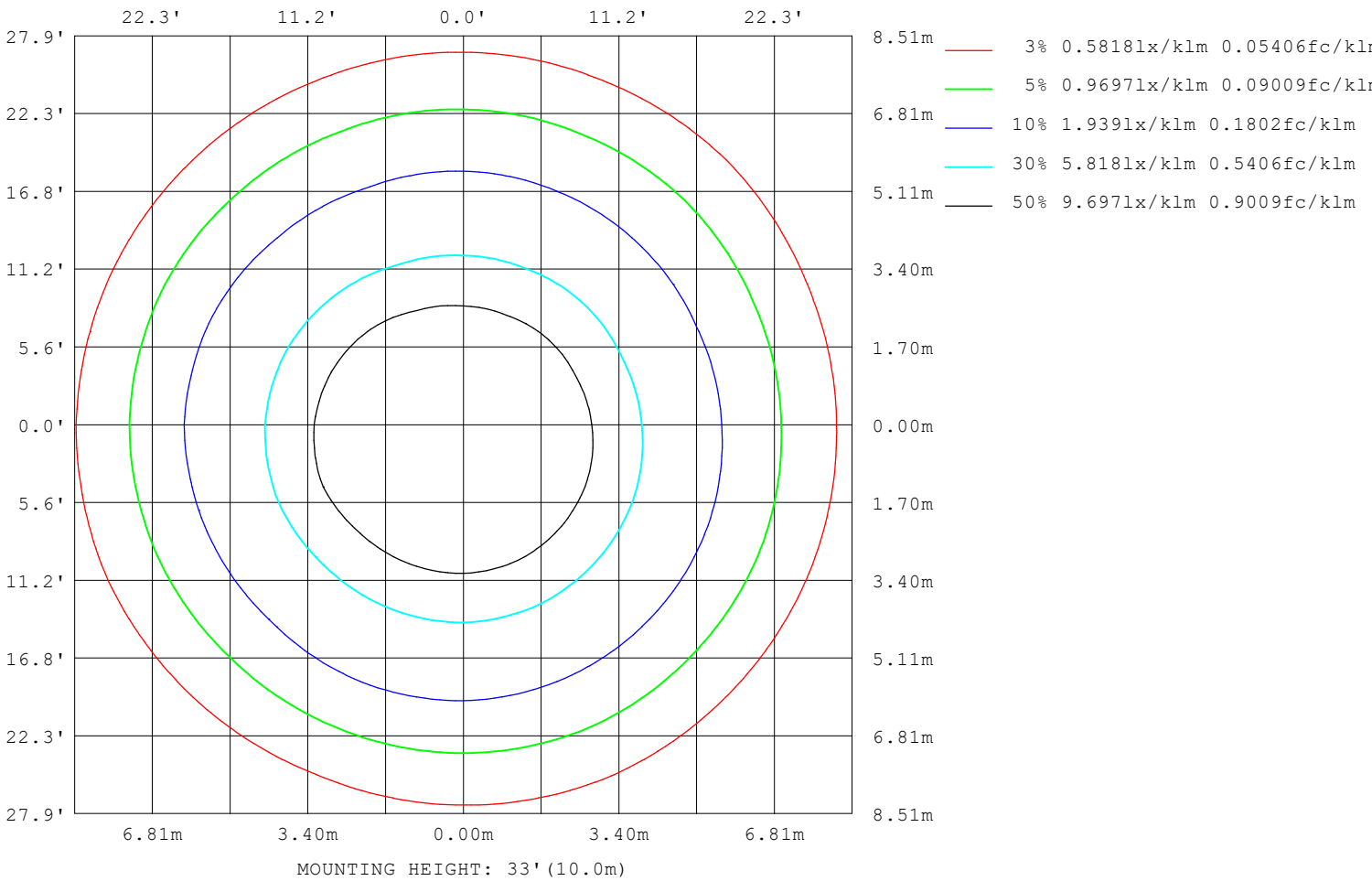
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 2023-07-13

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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-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: 2023-07-13

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:119.76V I:0.1413A P:16.704W PF:0.9874 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1599.29x1 lm		
NAME: ASD-CD-TGR-4D17AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

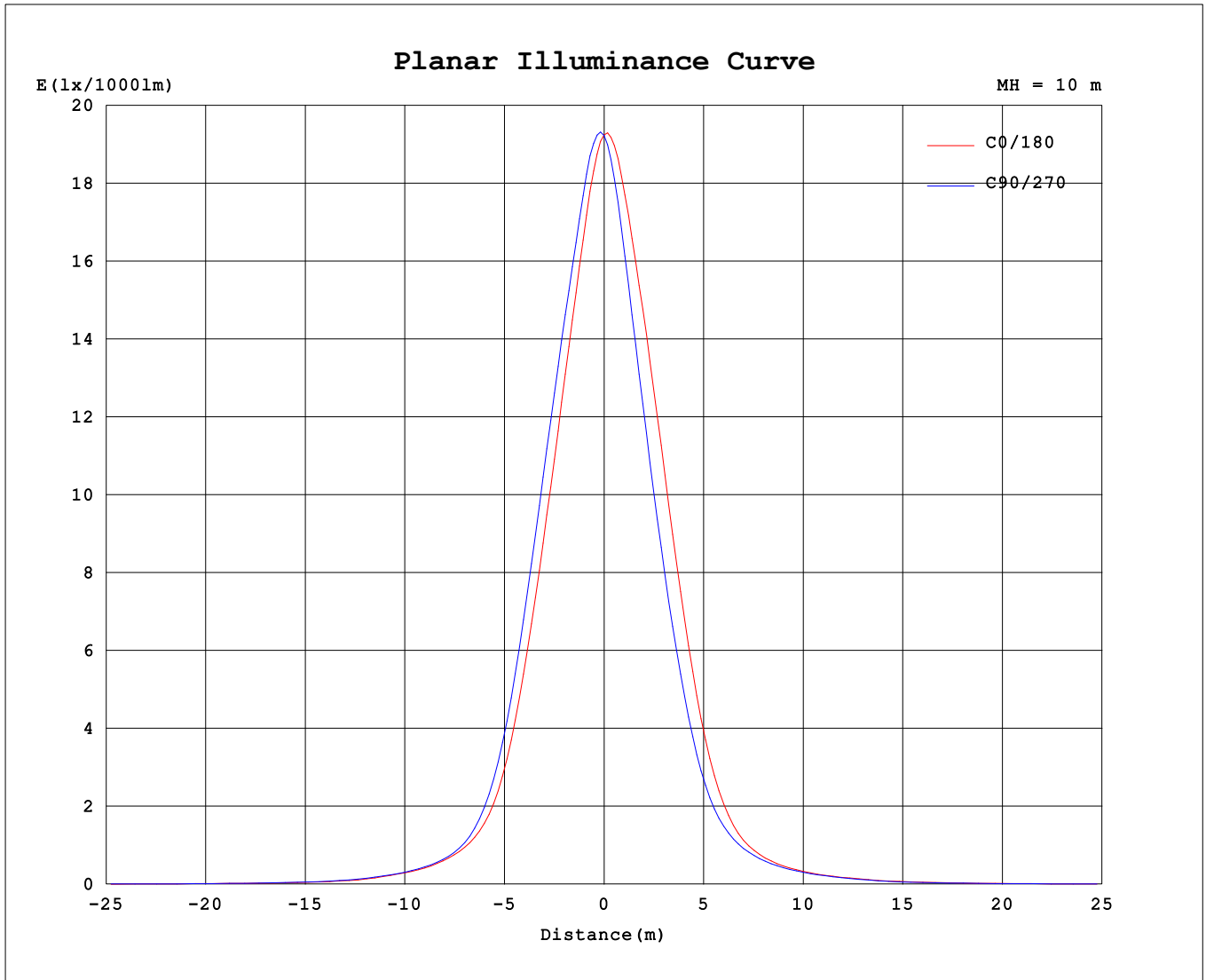
AvgL	cd/m2
L_0~180 (65) av	645
L_0~180 (75) av	310
L_0~180 (85) av	211
L_90~270 (65) av	645
L_90~270 (75) av	343
L_90~270 (85) av	282
L_45 (65) av	647
L_45 (75) av	341
L_45 (85) av	241

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:  
 Test Date:2023-07-13

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: 25.3 °C  
 Operators:  
 Test Date: 2023-07-13

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:

