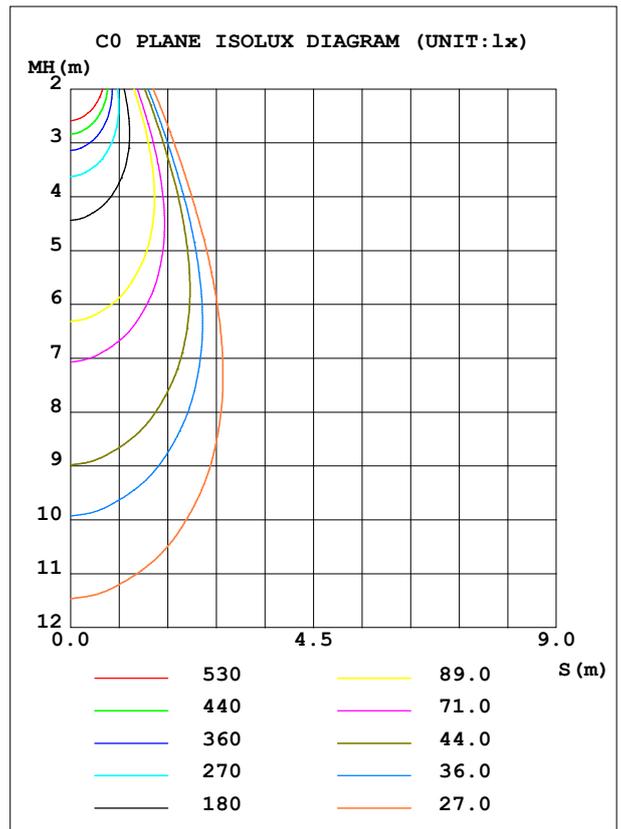
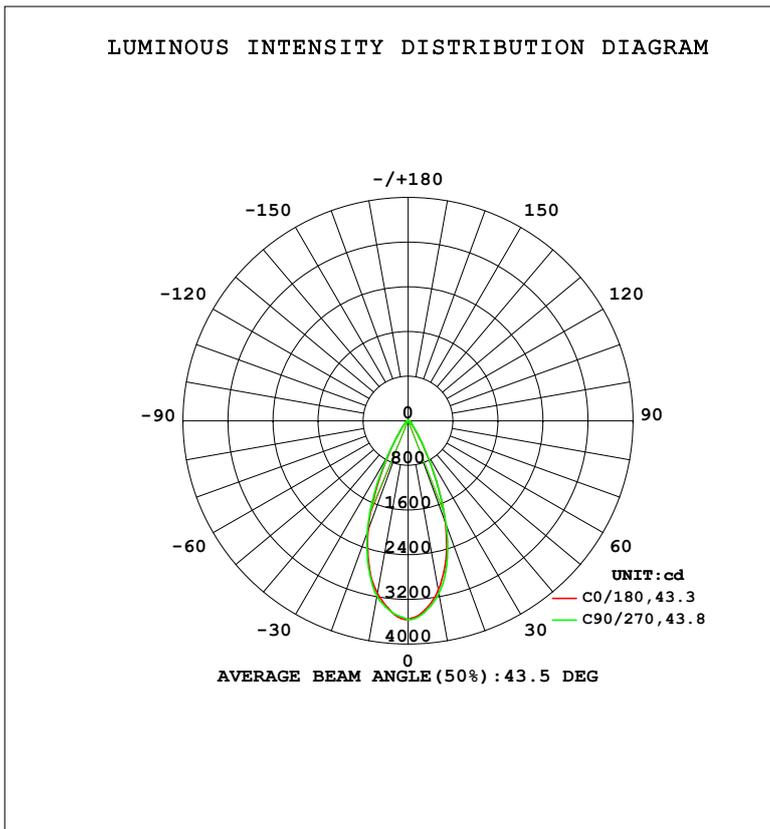


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	3563	S/MH (C0/180)	0.69
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	0.70
RATED VOLTAGE (V)	277	TOTAL FLUX (lm)	2023.1	$\eta$ UP, DN (C0-180)	0.0,49.2
NOMINAL FLUX (lm)	2023.08	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0,50.8
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	277	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.70



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3 °C  
 Operators:  
 Test Date:2022-11-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

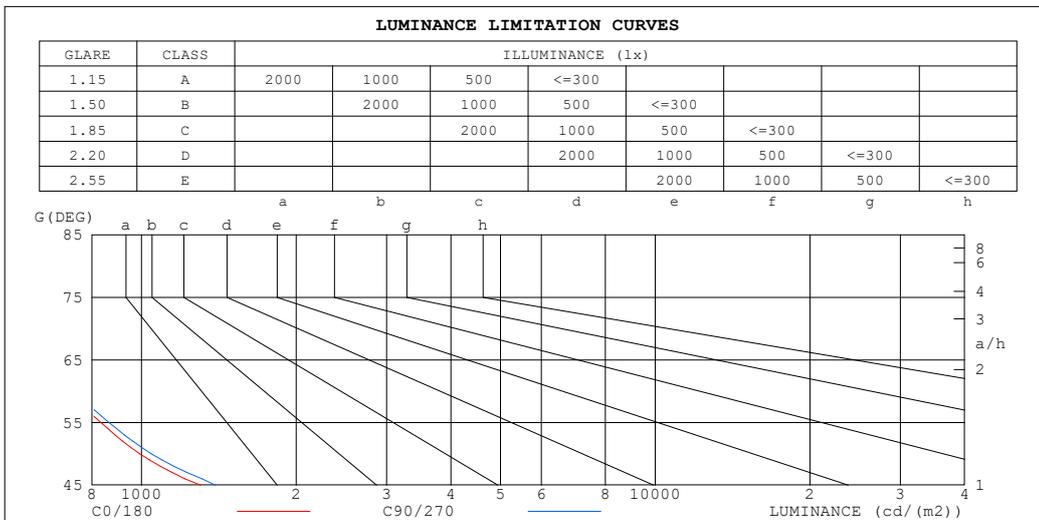
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	3087	3128	3145	3152	3143	3075	3190	3225	0- 10	318.1	318.1	15.7,15.7
20	1946	1928	1975	2075	2083	2014	2127	2162	10- 20	733.2	1051	52,52
30	592.1	603.7	615.3	663.6	690.7	676.5	731.6	706.7	20- 30	584.9	1636	80.9,80.9
40	161.4	172.7	176.9	179.0	180.7	176.2	187.1	186.7	30- 40	218.9	1855	91.7,91.7
50	70.95	74.69	74.49	73.69	73.58	73.77	75.51	75.41	40- 50	87.49	1943	96,96
60	39.17	40.53	40.00	39.72	39.84	39.84	40.57	40.46	50- 60	49.42	1992	98.5,98.5
70	10.08	10.02	9.764	10.25	10.67	11.03	11.28	10.37	60- 70	24.24	2016	99.7,99.7
80	2.698	2.676	2.617	2.740	2.781	2.803	2.844	2.721	70- 80	5.458	2022	99.9,99.9
90	0.1002	0.1275	0.0847	0.0777	0.0712	0.0626	0.0706	0.0699	80- 90	1.323	2023	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:2022-11-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	121	113
80	140	136
75	155	152
70	265	258
65	518	520
60	704	721
55	834	864
50	992	1045
45	1303	1392

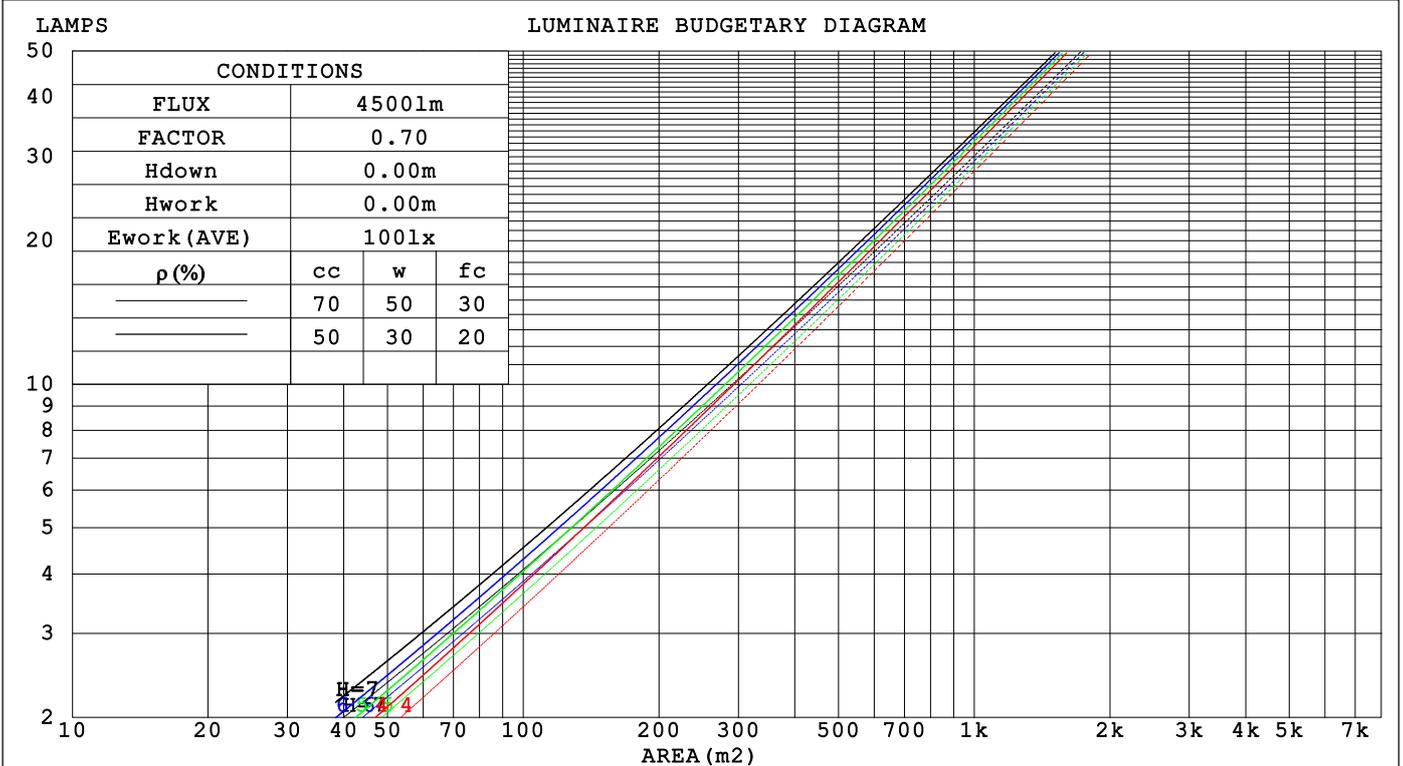
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 2022-11-30

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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz		
UTHdi:0.00% ITHdi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.00	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3.0	.98	.93	.89	.96	.92	.88	.94	.90	.87	.91	.88	.86	.89	.87	.84	.83
4.0	.92	.87	.83	.91	.86	.82	.89	.85	.81	.87	.83	.80	.85	.82	.79	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.82	.79	.76	.81	.78	.75	.74
6.0	.82	.77	.73	.81	.76	.72	.80	.75	.72	.79	.75	.71	.77	.74	.71	.70
7.0	.78	.72	.69	.77	.72	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.66
8.0	.74	.69	.65	.74	.68	.65	.73	.68	.65	.72	.67	.64	.71	.67	.64	.63
9.0	.71	.65	.62	.70	.65	.62	.69	.65	.61	.69	.64	.61	.68	.64	.61	.60
10.0	.68	.62	.59	.67	.62	.59	.66	.62	.58	.66	.61	.58	.65	.61	.58	.57



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-11-30

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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	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	.170	.097	.031	.164	.093	.030	.151	.087	.028	.140	.081	.026	.129	.075	.024	
2.0	.162	.089	.027	.156	.086	.027	.146	.081	.025	.136	.076	.024	.127	.072	.023	
3.0	.153	.082	.024	.149	.080	.024	.140	.076	.023	.131	.072	.022	.124	.068	.021	
4.0	.145	.075	.022	.141	.074	.022	.133	.071	.021	.126	.068	.020	.120	.065	.020	
5.0	.138	.070	.020	.134	.069	.020	.128	.066	.020	.121	.064	.019	.116	.062	.019	
6.0	.131	.066	.019	.128	.065	.019	.122	.063	.018	.117	.061	.018	.112	.059	.017	
7.0	.125	.062	.017	.122	.061	.017	.117	.059	.017	.112	.057	.017	.108	.056	.016	
8.0	.119	.058	.016	.117	.057	.016	.112	.056	.016	.108	.055	.016	.104	.053	.016	
9.0	.114	.055	.015	.112	.054	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015	
10.0	.109	.052	.015	.107	.052	.014	.104	.051	.014	.100	.050	.014	.097	.049	.014	

$\rho_{cc}$	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	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.133	.114	.098	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.033	.016	.013	.011	
4.0	.131	.099	.074	.113	.085	.064	.077	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.122	.087	.061	.105	.075	.053	.072	.053	.037	.042	.031	.022	.013	.010	.007	
6.0	.114	.077	.051	.098	.067	.044	.068	.047	.031	.039	.028	.019	.013	.009	.006	
7.0	.107	.070	.043	.092	.060	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.101	.063	.037	.087	.055	.032	.060	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.096	.058	.032	.083	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.092	.054	.028	.079	.047	.025	.055	.033	.018	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-11-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	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	5.3	6.2	5.5	6.3	6.5	5.8	6.6	6.0	6.8	7.0
3H	5.4	6.2	5.7	6.4	6.6	5.8	6.7	6.1	6.8	7.0
4H	5.4	6.1	5.6	6.3	6.6	5.8	6.6	6.1	6.8	7.0
6H	5.3	6.0	5.6	6.3	6.5	5.7	6.4	6.0	6.7	6.9
8H	5.3	6.0	5.6	6.2	6.5	5.7	6.4	6.0	6.6	6.9
12H	5.2	5.9	5.5	6.2	6.4	5.6	6.3	6.0	6.6	6.9
4H 2H	5.4	6.1	5.6	6.4	6.6	5.8	6.6	6.1	6.8	7.0
3H	5.5	6.2	5.8	6.4	6.7	5.9	6.6	6.2	6.8	7.1
4H	5.5	6.1	5.8	6.4	6.7	5.8	6.5	6.2	6.8	7.1
6H	5.4	5.9	5.8	6.3	6.6	5.8	6.3	6.2	6.7	7.0
8H	5.4	5.9	5.8	6.2	6.6	5.8	6.3	6.1	6.6	7.0
12H	5.3	5.8	5.7	6.2	6.6	5.7	6.2	6.1	6.5	6.9
8H 4H	5.3	5.8	5.7	6.2	6.6	5.7	6.2	6.1	6.6	6.9
6H	5.3	5.7	5.7	6.1	6.5	5.7	6.1	6.1	6.5	6.9
8H	5.3	5.6	5.7	6.1	6.5	5.7	6.0	6.1	6.4	6.9
12H	5.3	5.6	5.7	6.0	6.5	5.6	5.9	6.1	6.4	6.8
12H 4H	5.3	5.8	5.7	6.1	6.5	5.7	6.1	6.1	6.5	6.9
6H	5.3	5.6	5.7	6.0	6.5	5.6	6.0	6.1	6.4	6.9
8H	5.2	5.5	5.7	6.0	6.5	5.6	5.9	6.1	6.4	6.8

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 1.3 / - 2.0	+ 1.4 / - 2.2
1.5H	+ 2.3 / - 1.3	+ 2.4 / - 1.5
2.0H	+ 1.7 / - 1.4	+ 1.9 / - 1.5

CIE Pub.117, 2023 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.4)  
 Area: 0.111111 m2

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
Temperature:25.3°C	Humidity:65.0%
Operators:	Test Distance:3.090m [K=1.0000]
Test Date:2022-11-30	Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

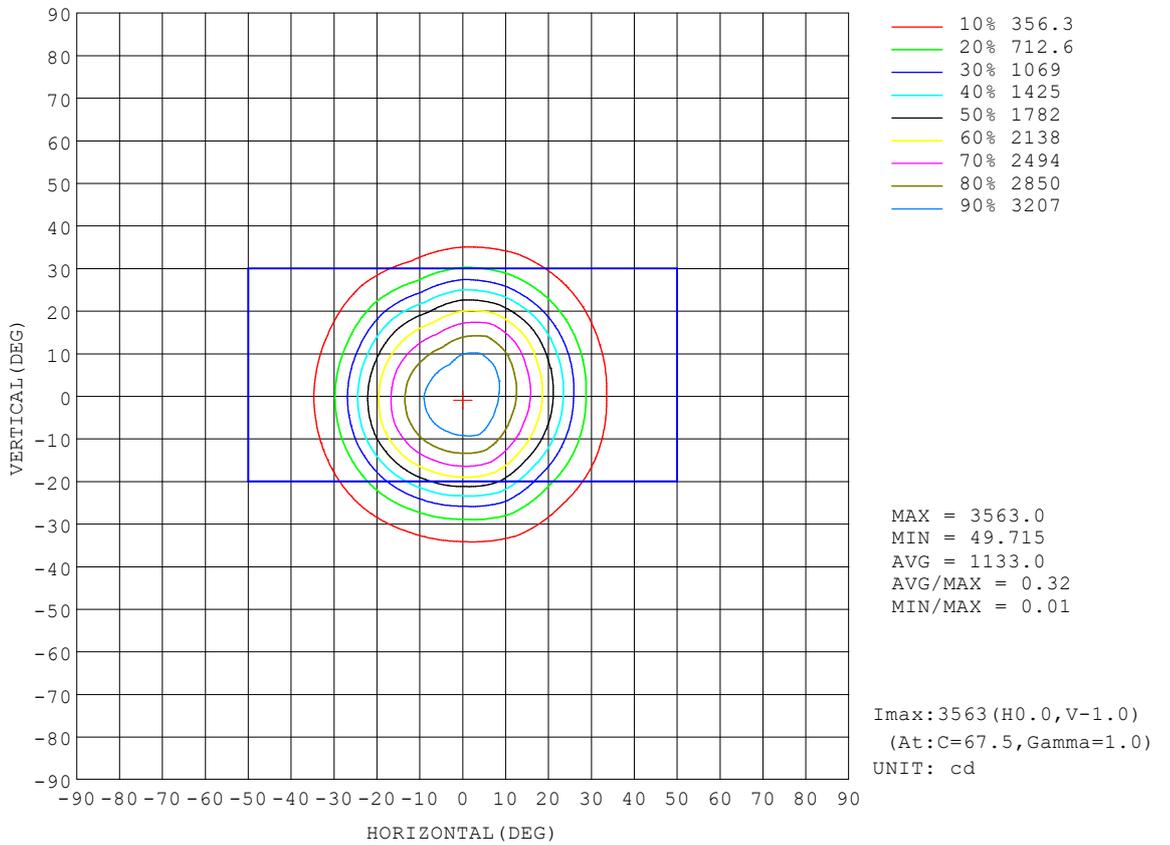
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	87	84	92	87	83	80
1.00	98	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	95	92	88
1.50	105	100	97	104	100	97	102	98	95	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	98
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:2022-11-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



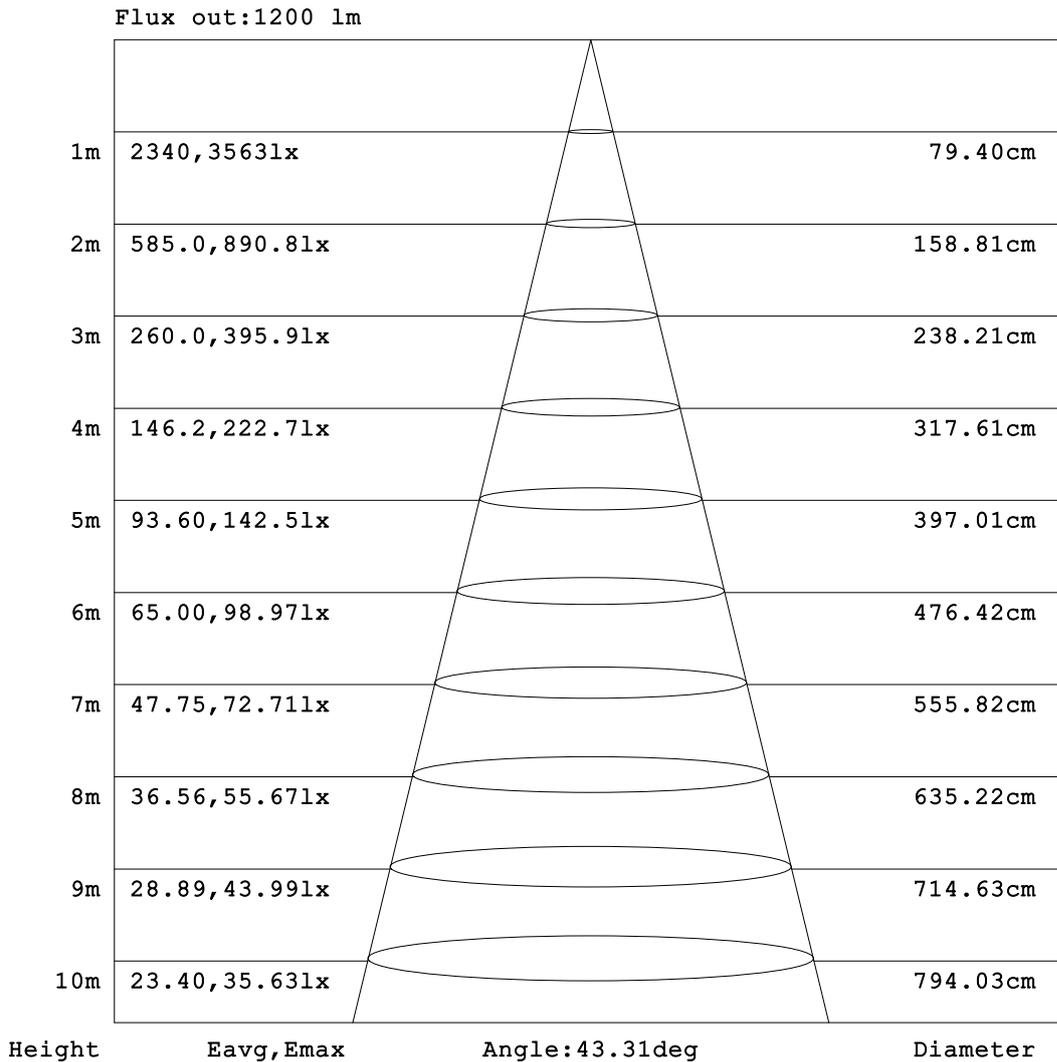
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 2022-11-30

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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



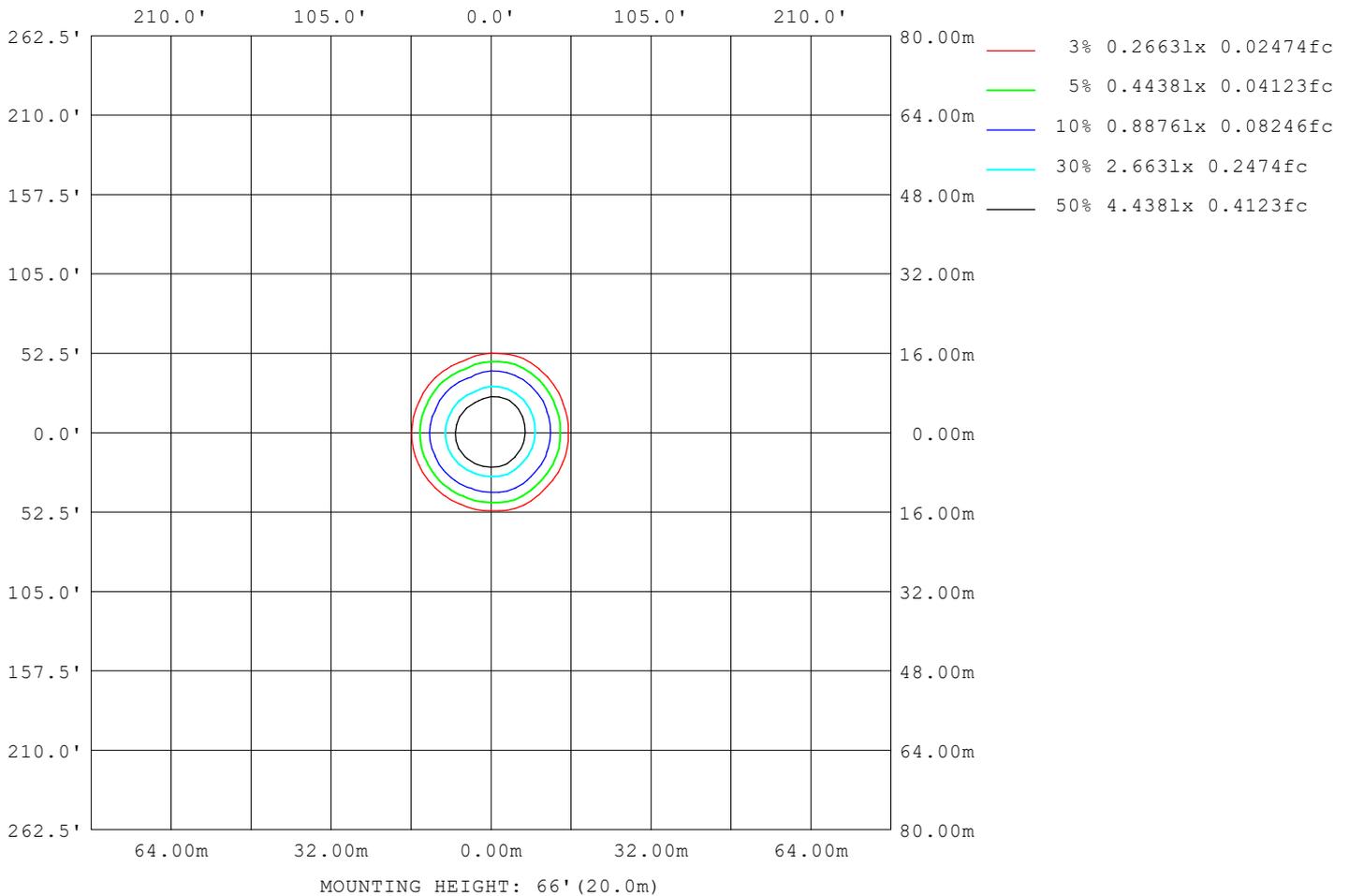
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-11-30

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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-11-30

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:277.16V I:0.0767A P:20.581W PF:0.9686 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2023.08x1 lm		
NAME: ASD-CD-TR-MV-6D24AC-WH	TYPE:	WEIGHT:
SPEC.: 4000K 90	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

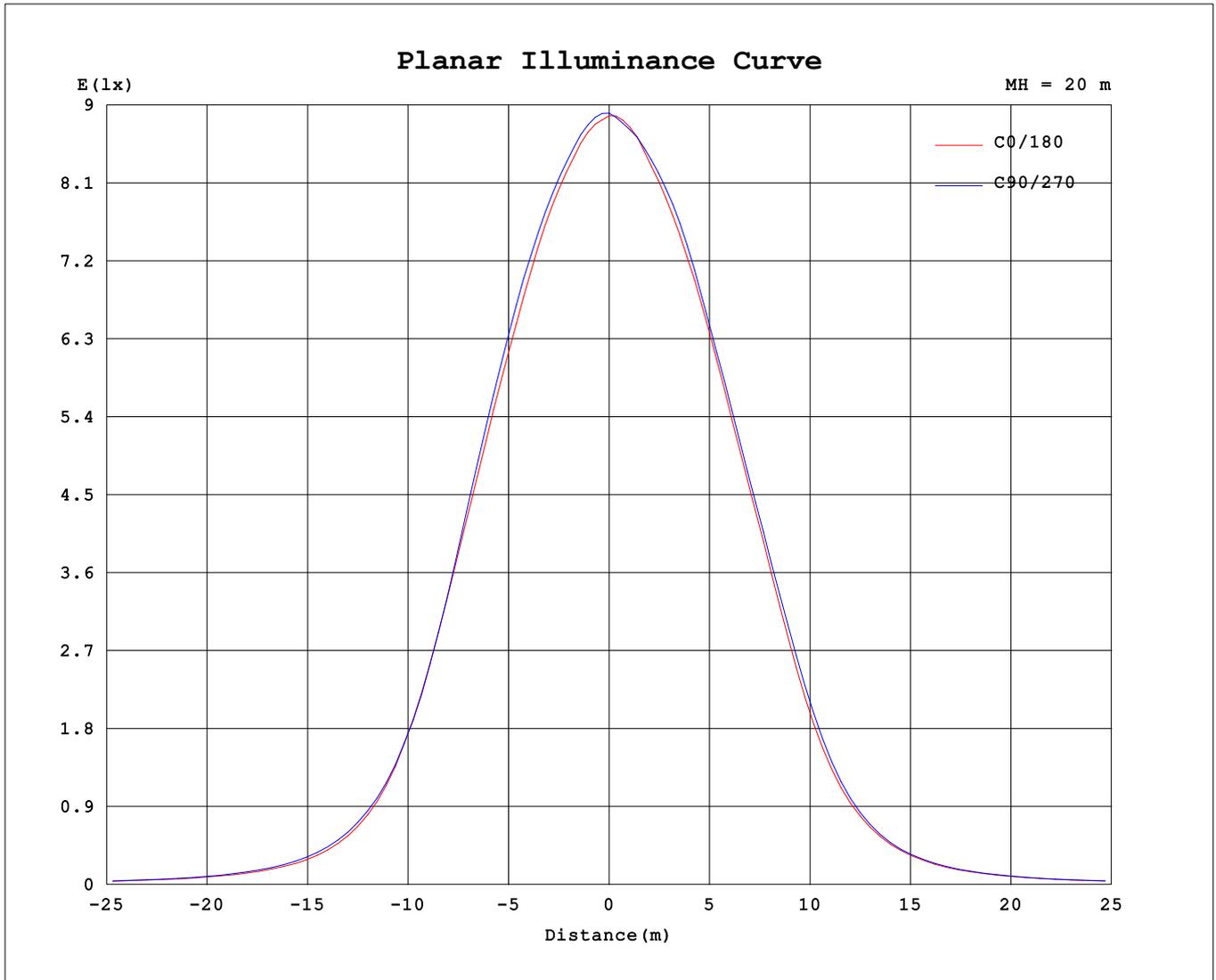
AvgL	cd/m2
L_0~180 (65) av	529
L_0~180 (75) av	156
L_0~180 (85) av	125
L_90~270 (65) av	533
L_90~270 (75) av	156
L_90~270 (85) av	115
L_45 (65) av	533
L_45 (75) av	156
L_45 (85) av	120

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:  
 Test Date:2022-11-30

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: 2022-11-30

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:

