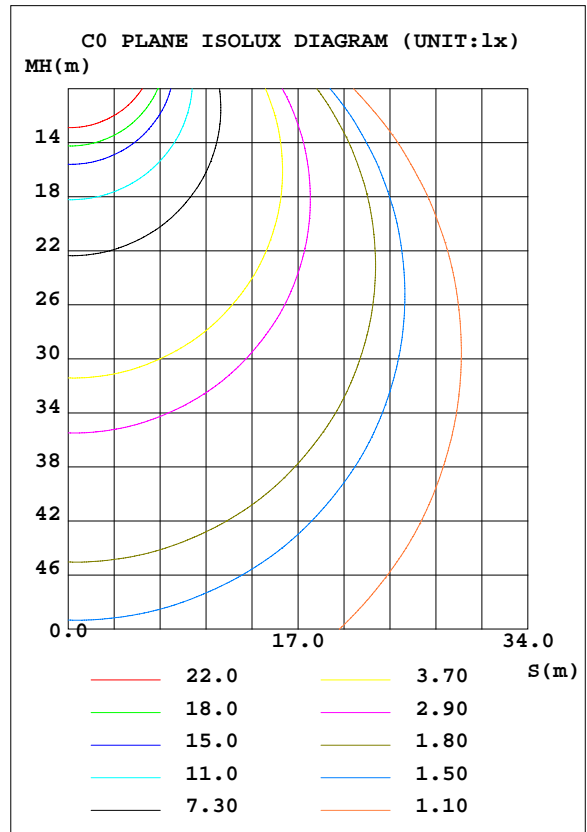
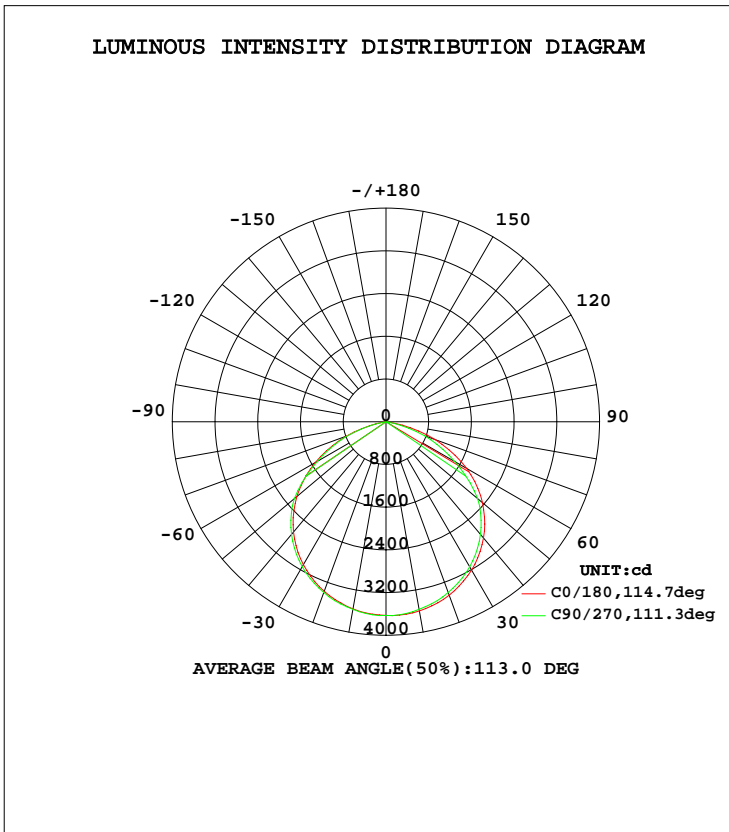


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 104.74 lm/W			
MODEL	ASD-FLSL-100N50Y-XX	I <sub>max</sub> (cd)	3632	S/MH(C0/180)	1.31
NOMINAL POWER(W)	96	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	10038	η UP, DN(C0-180)	0.1, 51.1
NOMINAL FLUX(lm)	10038.2	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 48.8
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	110.4	η down(%)	99.8	CIBSE SHR MAX	1.35



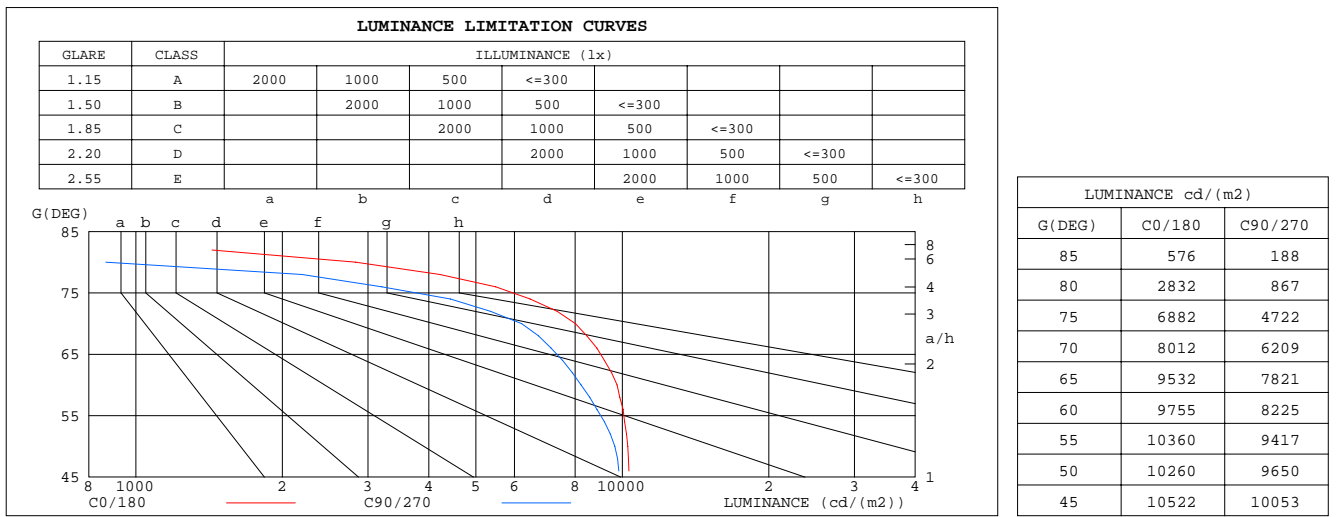
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM  
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp	
10	3597	3568	3560	3568				0- 10	343.9	343.9	3.43,3.43	
20	3458	3405	3381	3405				10- 20	990.1	1334	13.3,13.3	
30	3208	3137	3092	3137				20- 30	1517	2851	28.4,28.4	
40	2842	2753	2694	2753				30- 40	1855	4706	46.9,46.9	
50	2359	2237	2179	2237				40- 50	1945	6651	66.3,66.3	
60	1745	1483	1531	1483				50- 60	1712	8363	83.3,83.3	
70	980.4	766.0	779.5	766.0				60- 70	1179	9542	95.1,95.1	
80	176.0	54.30	95.71	54.30				70- 80	455.2	9998	99.6,99.6	
90	1.821	0.1296	0.5821	0.1296				80- 90	21.22	10019	99.8,99.8	
100	0.5516	0.7063	0.7490	0.7063				90-100	0.5700	10019	99.8,99.8	
110	1.697	1.755	1.990	1.755				100-110	1.286	10021	99.8,99.8	
120	2.863	2.975	3.188	2.975				110-120	2.388	10023	99.8,99.8	
130	3.882	4.088	4.172	4.088				120-130	3.166	10026	99.9,99.9	
140	4.774	4.964	5.007	4.964				130-140	3.480	10030	99.9,99.9	
150	5.516	5.627	5.671	5.627				140-150	3.311	10033	99.9,99.9	
160	6.110	6.204	6.248	6.204				150-160	2.728	10036	100,100	
170	6.599	6.654	6.655	6.654				160-170	1.820	10038	100,100	
180	6.833	6.867	6.848	6.867				170-180	0.6427	10038	100,100	
DEG	LUMINOUS INTENSITY:cd							UNIT:lm				



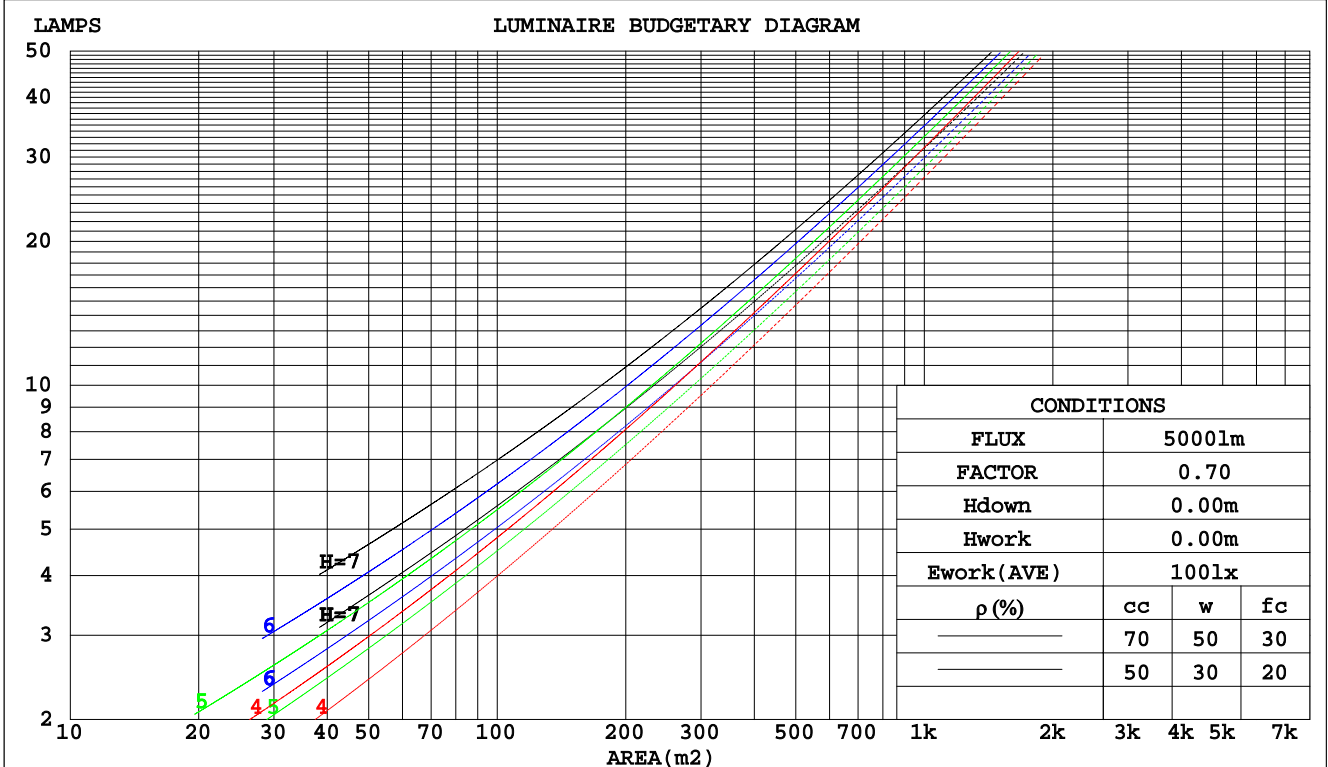
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2019-07-09

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
Humidity:65.0%  
Test Distance:18.400m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																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	.00
1.0	1.05	1.02	.98	1.03	.90	.96	.99	.96	.93	.95	.93	.90	.91	.90	.88	.86
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.81	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.64	.72	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.68	.61	.56	.66	.60	.55	.64	.59	.54	.52
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.40	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity: 65.0%  
 Test Distance: 18.400m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION 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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.280	.159	.050	.272	.155	.049	.259	.149	.048	.247	.143	.046	.236	.137	.044	
2.0	.272	.149	.046	.266	.147	.045	.254	.142	.044	.244	.137	.043	.234	.132	.042	
3.0	.257	.137	.041	.251	.135	.040	.241	.131	.040	.231	.127	.039	.223	.123	.038	
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.217	.117	.035	.209	.114	.035	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.032	
6.0	.208	.104	.030	.205	.103	.030	.197	.101	.029	.191	.099	.029	.184	.097	.029	
7.0	.195	.096	.027	.191	.095	.027	.185	.093	.027	.179	.092	.027	.173	.090	.026	
8.0	.183	.089	.025	.179	.088	.025	.174	.087	.025	.168	.085	.025	.163	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.162	.077	.022	.159	.077	.021	.154	.076	.021	.150	.074	.021	.146	.073	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.180	.158	.138	.154	.136	.119	.105	.093	.082	.061	.054	.048	.019	.017	.015	
2.0	.171	.133	.102	.147	.115	.088	.100	.080	.061	.058	.046	.036	.019	.015	.012	
3.0	.163	.116	.078	.140	.100	.067	.096	.069	.047	.056	.040	.028	.018	.013	.009	
4.0	.156	.102	.061	.134	.088	.053	.092	.062	.037	.053	.036	.022	.017	.012	.007	
5.0	.149	.092	.050	.128	.079	.043	.088	.056	.031	.051	.033	.018	.016	.011	.006	
6.0	.142	.083	.041	.122	.072	.036	.084	.051	.026	.049	.030	.015	.016	.010	.005	
7.0	.135	.077	.035	.116	.066	.031	.080	.047	.022	.047	.027	.013	.015	.009	.004	
8.0	.129	.071	.031	.111	.061	.027	.077	.043	.019	.045	.025	.011	.014	.008	.004	
9.0	.123	.066	.027	.106	.057	.024	.074	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.118	.062	.024	.101	.053	.021	.070	.038	.015	.041	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

Uncorrected UGR Table

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm										
NAME: ASD-FLSL-100N50Y-XX					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:027		
MFR.: ASD Lighting corp					SUR.:			PROTECTION 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	21.2	22.6	21.4	22.8	23.0	20.6	22.1	20.9	22.3	22.5
3H	22.5	23.8	22.8	24.1	24.3	21.7	23.1	22.0	23.3	23.6
4H	22.8	24.1	23.1	24.4	24.6	21.9	23.2	22.2	23.5	23.7
6H	22.9	24.1	23.2	24.4	24.7	21.9	23.1	22.2	23.4	23.6
8H	22.8	24.0	23.2	24.3	24.6	21.8	23.0	22.2	23.3	23.6
12H	22.8	23.9	23.1	24.2	24.5	21.8	22.9	22.1	23.2	23.5
4H 2H	21.6	22.9	22.0	23.2	23.4	21.2	22.5	21.6	22.8	23.0
3H	23.1	24.2	23.4	24.5	24.8	22.5	23.6	22.8	23.9	24.2
4H	23.5	24.5	23.9	24.9	25.2	22.7	23.7	23.1	24.1	24.4
6H	23.6	24.5	24.0	24.9	25.2	22.7	23.6	23.1	23.9	24.3
8H	23.6	24.4	24.0	24.8	25.2	22.7	23.5	23.1	23.9	24.2
12H	23.5	24.3	24.0	24.7	25.1	22.6	23.4	23.0	23.8	24.2
8H 4H	23.6	24.4	24.0	24.8	25.1	22.8	23.6	23.2	24.0	24.4
6H	23.7	24.4	24.1	24.8	25.2	22.8	23.5	23.3	23.9	24.3
8H	23.7	24.3	24.1	24.7	25.1	22.8	23.4	23.2	23.8	24.3
12H	23.6	24.1	24.1	24.6	25.1	22.7	23.3	23.2	23.7	24.2
12H 4H	23.5	24.3	23.9	24.7	25.1	22.8	23.5	23.2	23.9	24.3
6H	23.6	24.2	24.1	24.7	25.1	22.8	23.4	23.2	23.8	24.3
8H	23.6	24.1	24.1	24.6	25.1	22.8	23.3	23.2	23.7	24.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.3 / - 0.6				
2.0H	+ 0.4 / - 0.5					+ 0.5 / - 0.6				

CIE Pub.117 Corrected 10038 lm Total Lamp Luminous Flux. (8log(F/F0) = 8.0)

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

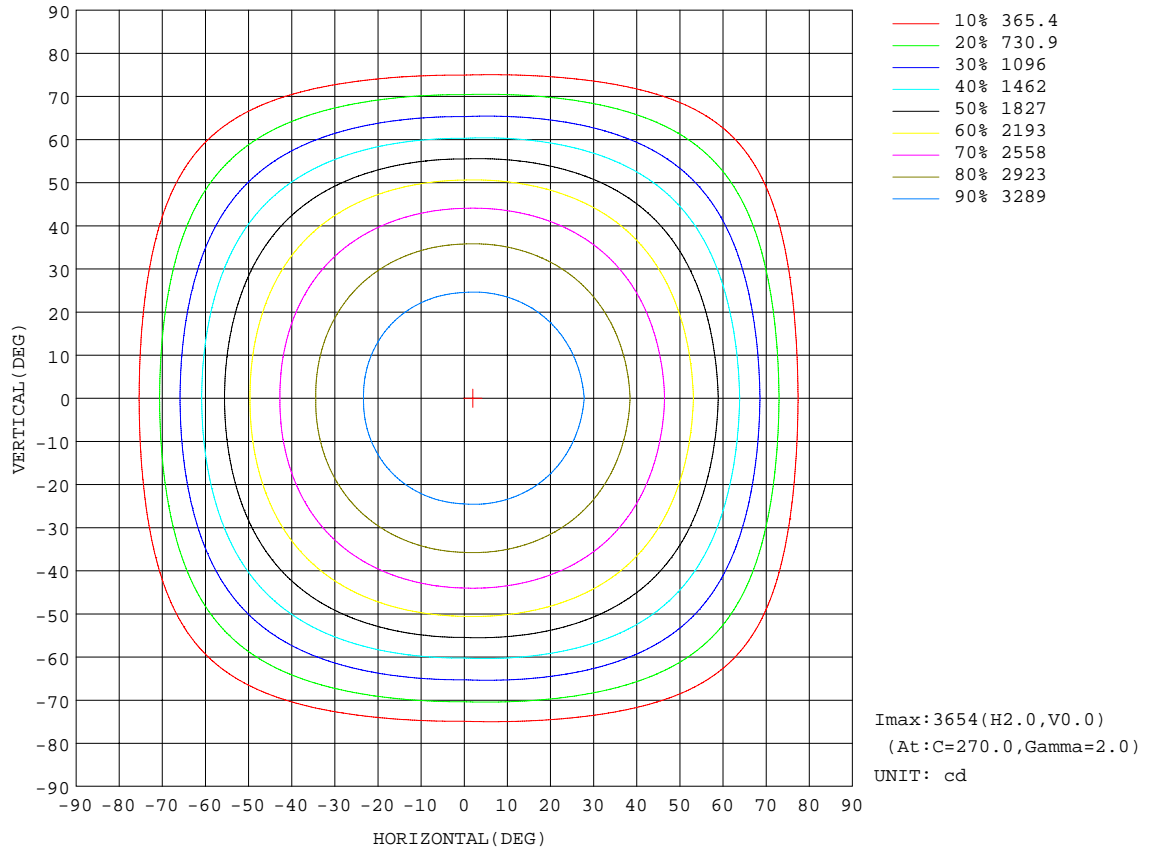
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	58	47	40	57	46	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	78	67	60	76	66	60	74	68	59	52
1.25	85	75	68	83	74	68	81	73	67	60
1.50	90	81	74	88	80	73	85	78	72	65
2.00	97	89	83	95	88	82	91	85	80	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

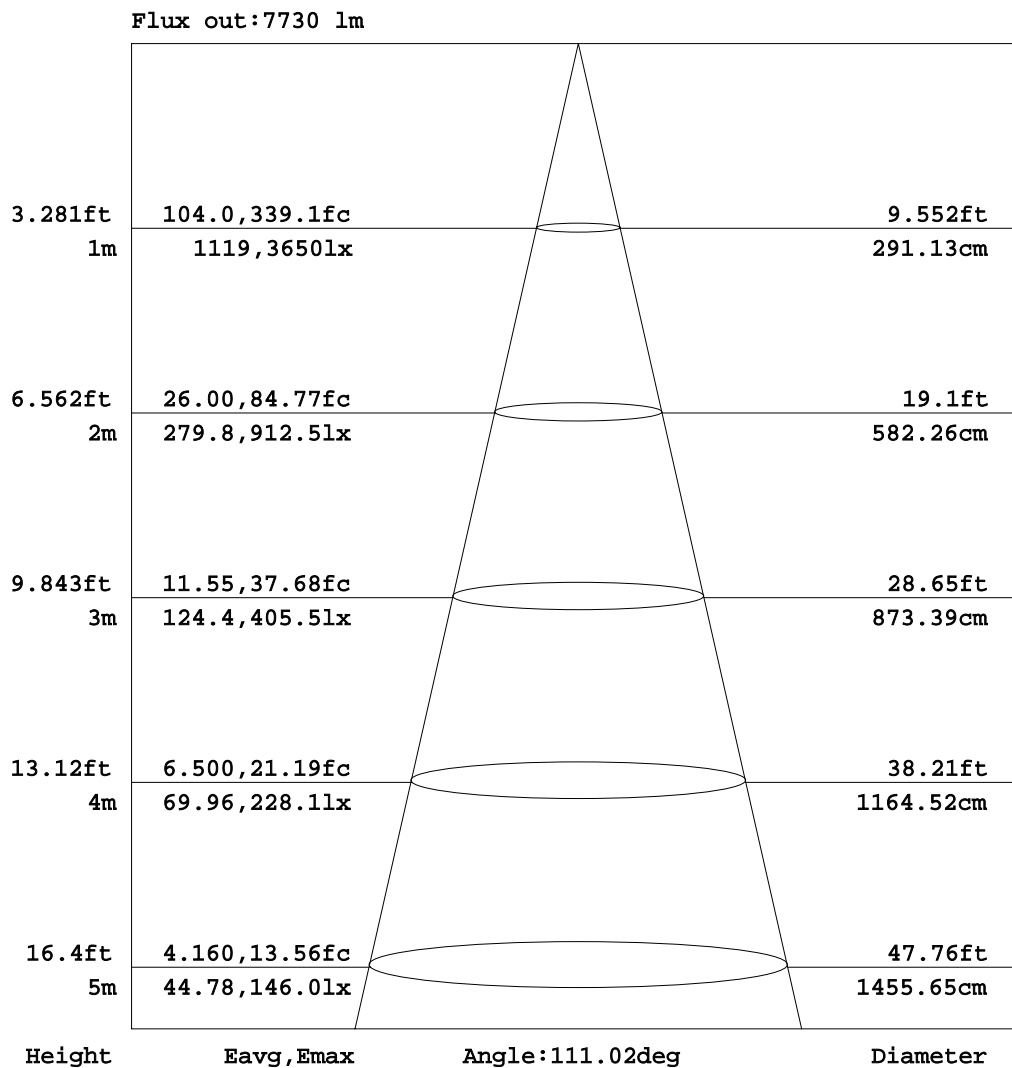


C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity: 65.0%  
 Test Distance: 18.400m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



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

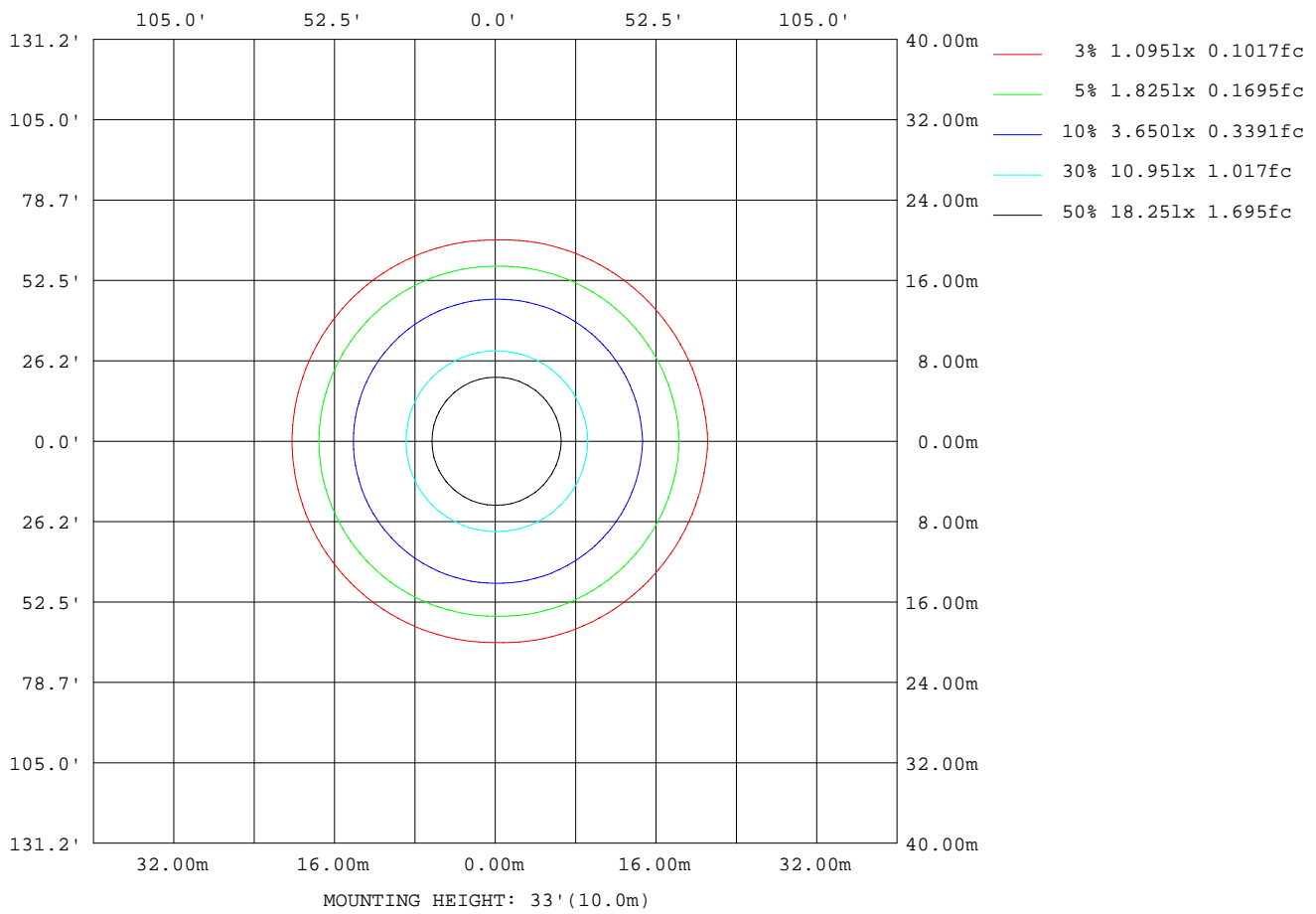
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:



**ISOLUX DIAGRAM**

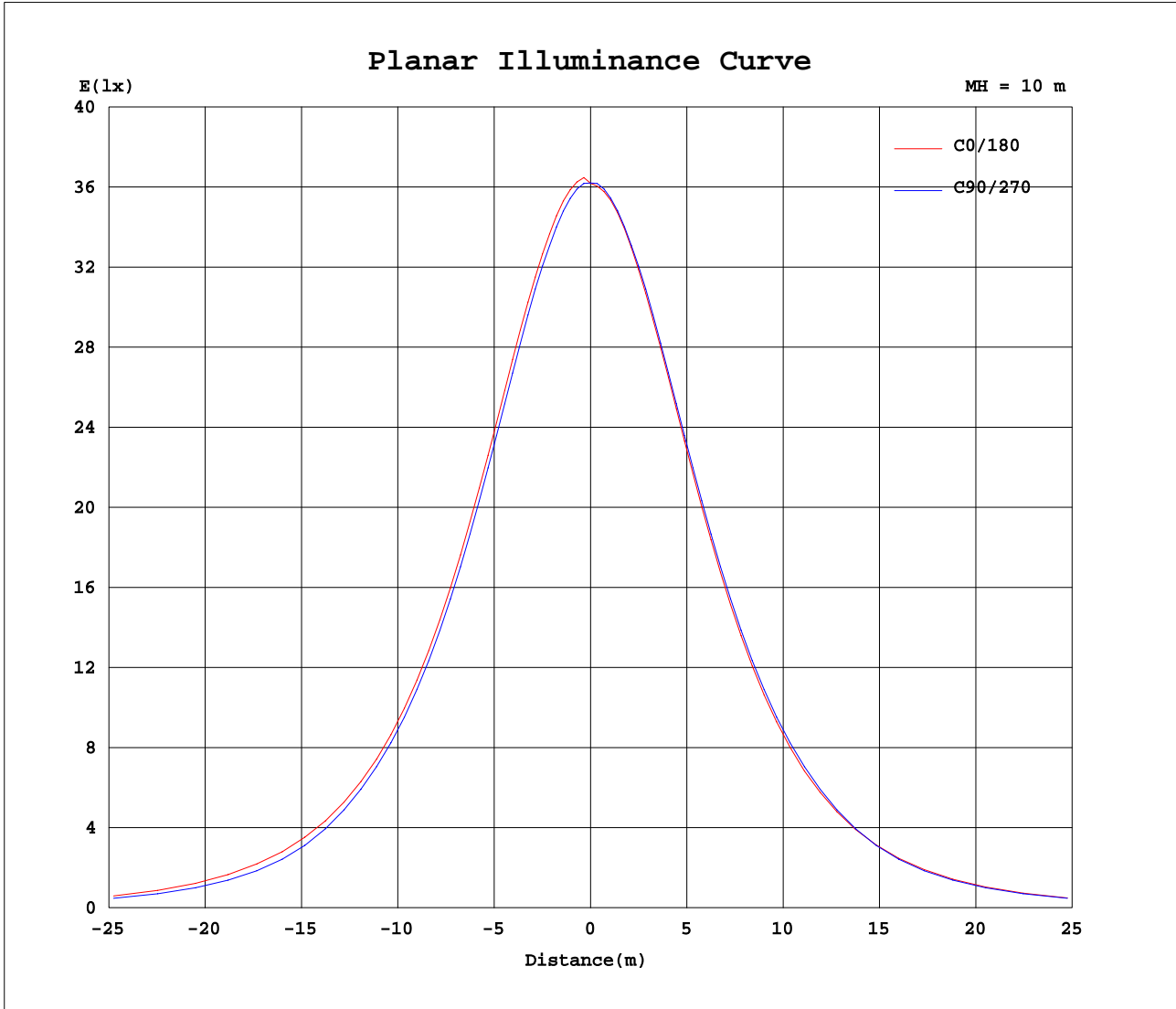
Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019-07-09

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity: 65.0%  
 Test Distance: 18.400m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:110.4V I:0.8753A P:95.84W PF:0.9917 Lamp Flux:10038.2x1 lm		
NAME: ASD-FLSL-100N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	90	180	270															
0	3627	3627	3627	3627															
5	3629	3624	3612	3624															
10	3597	3568	3560	3568															
15	3552	3516	3498	3516															
20	3458	3405	3381	3405															
25	3368	3309	3279	3309															
30	3208	3137	3092	3137															
35	3075	2997	2948	2997															
40	2842	2753	2694	2753															
45	2662	2564	2502	2564															
50	2359	2237	2179	2237															
55	2126	1948	1932	1948															
60	1745	1483	1531	1483															
65	1441	1192	1238	1192															
70	980	766	779	766															
75	637	441	469	441															
80	176	54.3	95.7	54.3															
85	18.0	5.92	10.3	5.92															
90	1.82	0.13	0.58	0.13															
95	0.66	0.34	0.39	0.34															
100	0.55	0.71	0.75	0.71															
105	0.97	1.09	1.22	1.09															
110	1.70	1.75	1.99	1.75															
115	2.19	2.25	2.50	2.25															
120	2.86	2.98	3.19	2.98															
125	3.29	3.47	3.57	3.47															
130	3.88	4.09	4.17	4.09															
135	4.29	4.45	4.56	4.45															
140	4.77	4.96	5.01	4.96															
145	5.09	5.26	5.33	5.26															
150	5.52	5.63	5.67	5.63															
155	5.77	5.86	5.93	5.86															
160	6.11	6.20	6.25	6.20															
165	6.32	6.44	6.44	6.44															
170	6.60	6.65	6.66	6.65															
175	6.75	6.76	6.83	6.76															
180	6.83	6.87	6.85	6.87															

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019-07-09

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.281  
 Humidity:65.0%  
 Test Distance:18.400m [K=1.0000]  
 Remarks: