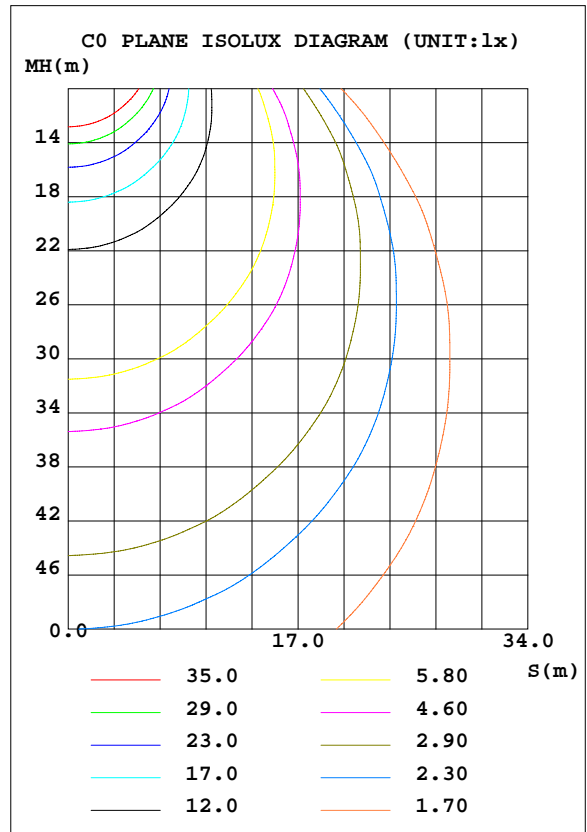
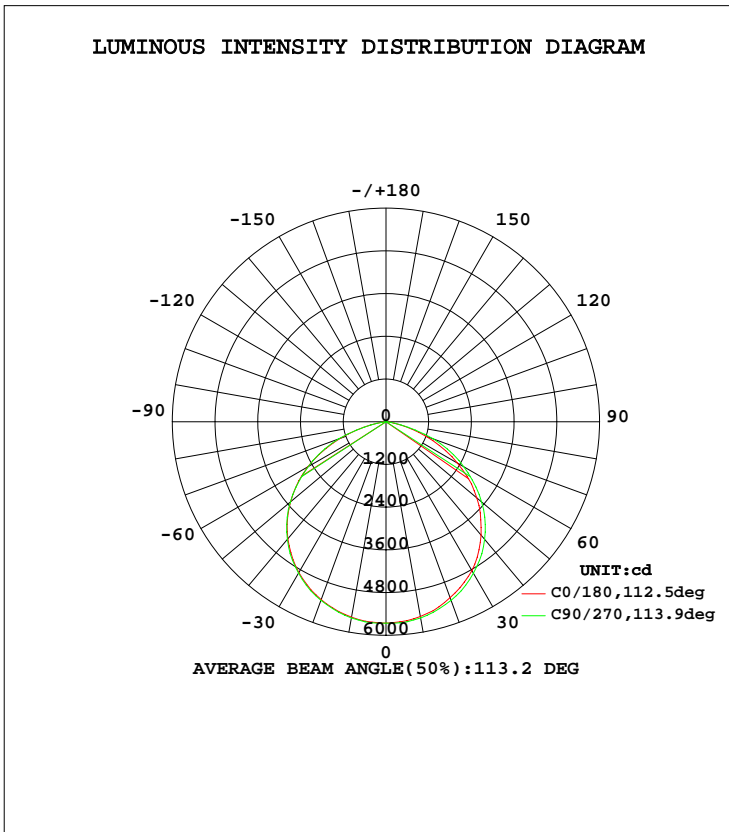


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.4V I:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.27 lm/W			
MODEL	ASD-FLSL-150N50Y-XX	I _{max} (cd)	5663	S/MH(C0/180)	1.27
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	15781	η UP, DN(C0-180)	0.1, 49.7
NOMINAL FLUX(lm)	15781.2	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 50.1
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



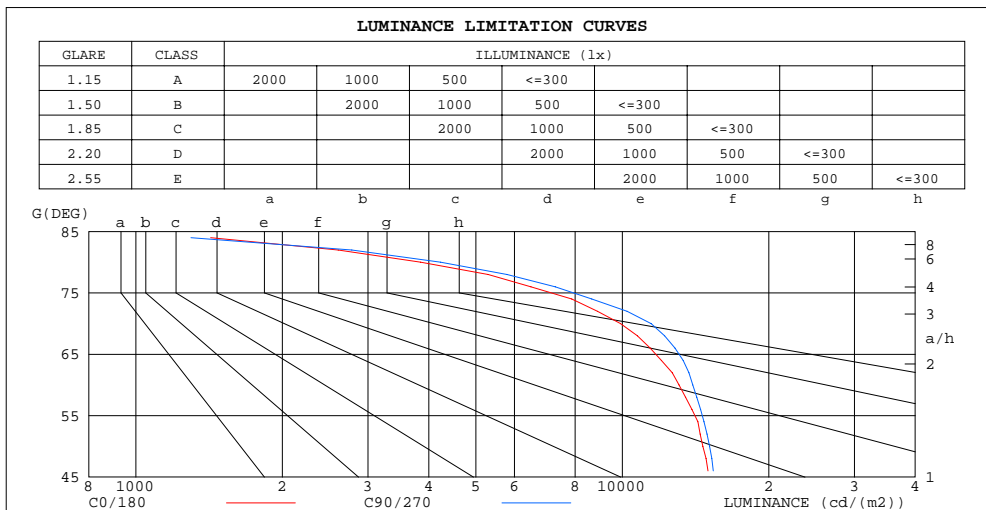
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-07-09

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:

γ	C0	C90	C180	C270				γ	Φ zone	Φ total	Φ lum,lamp	
10	5557	5597	5573	5597				0- 10	536.7	536.7	3.4,3.4	
20	5259	5340	5321	5340				10- 20	1544	2081	13.2,13.2	
30	4828	4914	4897	4914				20- 30	2362	4443	28.2,28.2	
40	4156	4310	4289	4310				30- 40	2877	7320	46.4,46.4	
50	3328	3508	3502	3508				40- 50	2996	10316	65.4,65.4	
60	2311	2521	2534	2521				50- 60	2664	12981	82.3,82.3	
70	1199	1417	1373	1417				60- 70	1901	14882	94.3,94.3	
80	236.3	265.2	265.8	265.2				70- 80	796.1	15679	99.3,99.3	
90	1.664	0.6204	0.5432	0.6204				80- 90	72.92	15751	99.8,99.8	
100	1.215	1.115	1.078	1.115				90-100	0.7735	15752	99.8,99.8	
110	2.955	2.616	2.633	2.616				100-110	1.976	15754	99.8,99.8	
120	4.738	4.459	4.425	4.459				110-120	3.581	15758	99.9,99.9	
130	6.353	6.109	6.024	6.109				120-130	4.788	15763	99.9,99.9	
140	7.738	7.543	7.492	7.543				130-140	5.324	15768	99.9,99.9	
150	8.870	8.786	8.680	8.786				140-150	5.137	15773	99.9,99.9	
160	9.856	9.813	9.695	9.813				150-160	4.292	15777	100,100	
170	10.59	10.65	10.47	10.65				160-170	2.887	15780	100,100	
180	10.86	11.03	10.84	11.03				170-180	1.025	15781	100,100	
DEG	LUMINOUS INTENSITY:cd							UNIT:lm				



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1709	1557
80	3848	4227
75	8380	9217
70	9914	11465
65	12484	13840
60	13073	13955
55	14653	15088
50	14641	15110
45	15330	15724

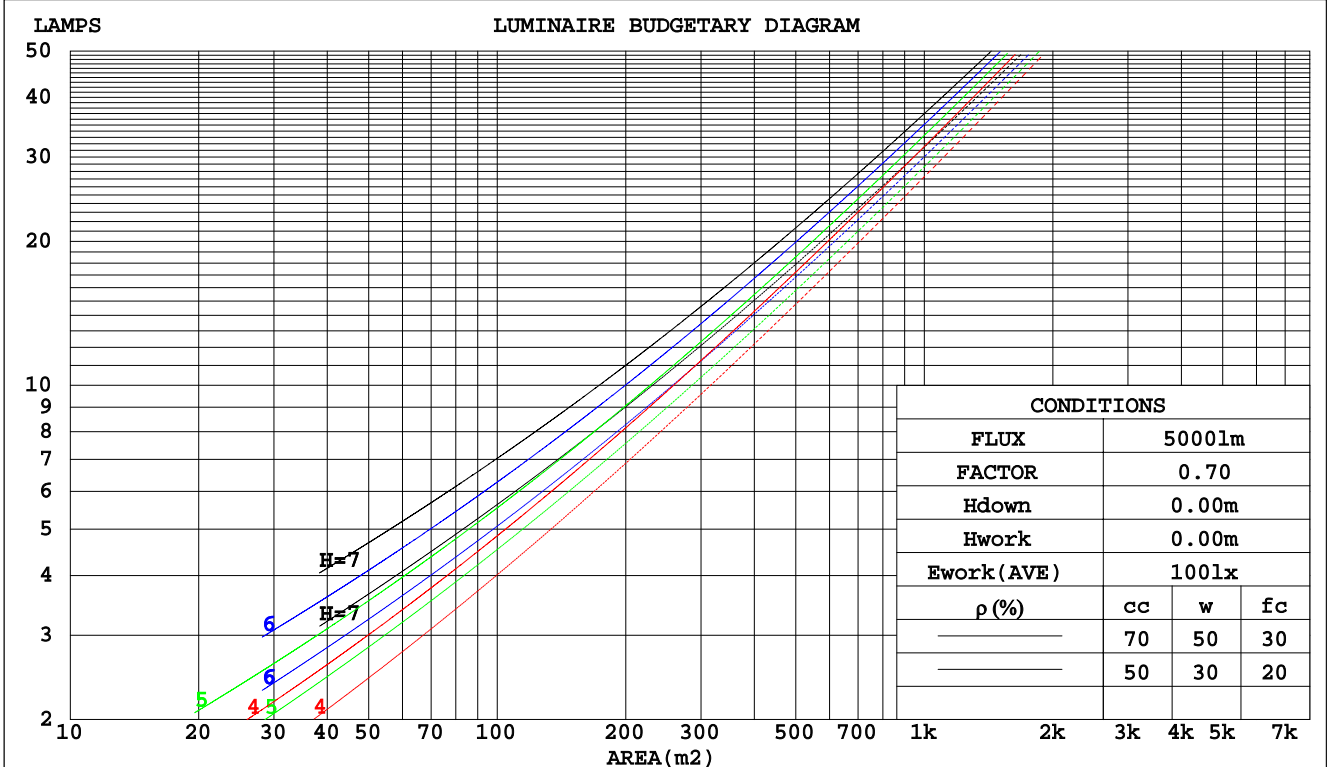
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-07-09

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:110.4V I:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-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																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	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.80	.90	.84	.79	.87	.82	.77	.83	.79	.75	.80	.77	.74	.72
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.74	.68	.64	.71	.67	.63	.61
4.0	.72	.63	.57	.70	.62	.56	.68	.61	.55	.66	.60	.55	.63	.58	.54	.52
5.0	.64	.55	.49	.63	.55	.48	.61	.54	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.48	.42	.55	.47	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.44	.38	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.29	.28
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.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:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-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	.285	.162	.051	.278	.159	.050	.265	.152	.049	.253	.146	.047	.241	.140	.045	
2.0	.276	.151	.046	.270	.149	.046	.258	.144	.045	.248	.139	.043	.238	.134	.042	
3.0	.259	.138	.041	.254	.136	.041	.244	.132	.040	.234	.128	.039	.225	.125	.039	
4.0	.242	.126	.037	.237	.124	.037	.228	.121	.036	.219	.118	.036	.211	.115	.035	
5.0	.225	.115	.033	.221	.113	.033	.212	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.210	.105	.030	.206	.104	.030	.198	.102	.030	.192	.100	.029	.185	.098	.029	
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.090	.027	
8.0	.183	.090	.025	.180	.089	.025	.174	.087	.025	.169	.086	.025	.164	.084	.024	
9.0	.172	.083	.023	.169	.083	.023	.164	.081	.023	.159	.080	.023	.155	.078	.023	
10.0	.162	.078	.022	.160	.077	.021	.155	.076	.021	.150	.075	.021	.146	.074	.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	.135	.119	.105	.093	.082	.061	.054	.048	.019	.017	.015	
2.0	.172	.133	.101	.147	.115	.088	.101	.079	.061	.058	.046	.036	.019	.015	.012	
3.0	.164	.116	.077	.141	.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	.049	.128	.079	.043	.088	.056	.030	.051	.033	.018	.016	.011	.006	
6.0	.142	.083	.041	.122	.072	.036	.084	.051	.025	.049	.030	.015	.016	.010	.005	
7.0	.136	.077	.035	.117	.066	.031	.081	.047	.022	.047	.027	.013	.015	.009	.004	
8.0	.129	.071	.030	.111	.061	.027	.077	.043	.019	.045	.025	.011	.015	.008	.004	
9.0	.123	.066	.027	.106	.057	.023	.074	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.118	.062	.024	.102	.053	.021	.071	.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:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm										
NAME: ASD-FLSL-150N50Y-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	22.1	23.6	22.3	23.8	24.0	22.3	23.8	22.5	24.0	24.2
3H	23.2	24.6	23.5	24.8	25.0	23.6	24.9	23.9	25.2	25.4
4H	23.5	24.8	23.8	25.0	25.3	23.9	25.2	24.2	25.4	25.7
6H	23.5	24.7	23.8	25.0	25.3	23.9	25.1	24.2	25.4	25.7
8H	23.5	24.7	23.8	24.9	25.2	23.9	25.1	24.2	25.3	25.6
12H	23.4	24.6	23.8	24.9	25.2	23.8	25.0	24.2	25.3	25.6
4H 2H	22.6	23.9	22.9	24.2	24.4	22.8	24.1	23.1	24.3	24.6
3H	23.9	25.0	24.2	25.3	25.6	24.2	25.3	24.6	25.6	25.9
4H	24.2	25.3	24.6	25.6	25.9	24.6	25.6	24.9	25.9	26.3
6H	24.3	25.2	24.7	25.6	25.9	24.7	25.6	25.1	25.9	26.3
8H	24.3	25.1	24.7	25.5	25.9	24.6	25.5	25.1	25.9	26.2
12H	24.3	25.0	24.7	25.4	25.8	24.6	25.4	25.0	25.8	26.2
8H 4H	24.3	25.2	24.7	25.5	25.9	24.6	25.5	25.1	25.9	26.2
6H	24.5	25.2	24.9	25.6	26.0	24.8	25.5	25.2	25.9	26.3
8H	24.5	25.1	24.9	25.5	25.9	24.8	25.4	25.2	25.8	26.3
12H	24.4	24.9	24.9	25.4	25.9	24.7	25.3	25.2	25.7	26.2
12H 4H	24.3	25.1	24.7	25.5	25.9	24.6	25.4	25.0	25.8	26.2
6H	24.4	25.0	24.9	25.5	25.9	24.8	25.4	25.2	25.8	26.2
8H	24.4	25.0	24.9	25.4	25.9	24.8	25.3	25.2	25.7	26.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.5					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.5				

CIE Pub.117 Corrected 15781 lm Total Lamp Luminous Flux. (8log(F/F0) = 9.6)

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:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

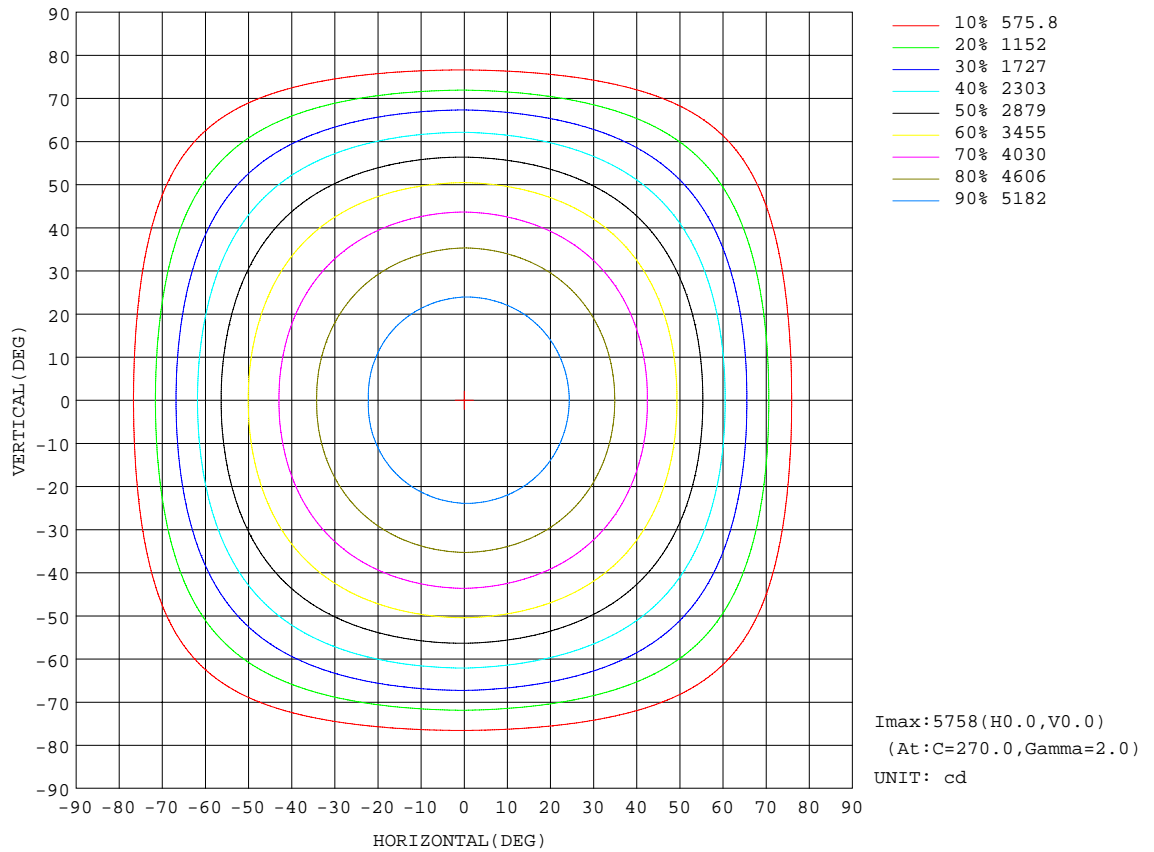
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	58	47	40	56	46	40	33
0.80	69	57	50	68	57	50	66	56	49	43
1.00	77	66	59	76	66	59	74	67	59	52
1.25	84	74	67	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	95	87	81	91	85	80	72
2.50	100	93	87	98	91	86	94	89	84	76
3.00	103	97	92	101	95	91	97	93	89	80
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	99	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

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:

ISOCANDELA DIAGRAM

Test:U:110.4V I:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

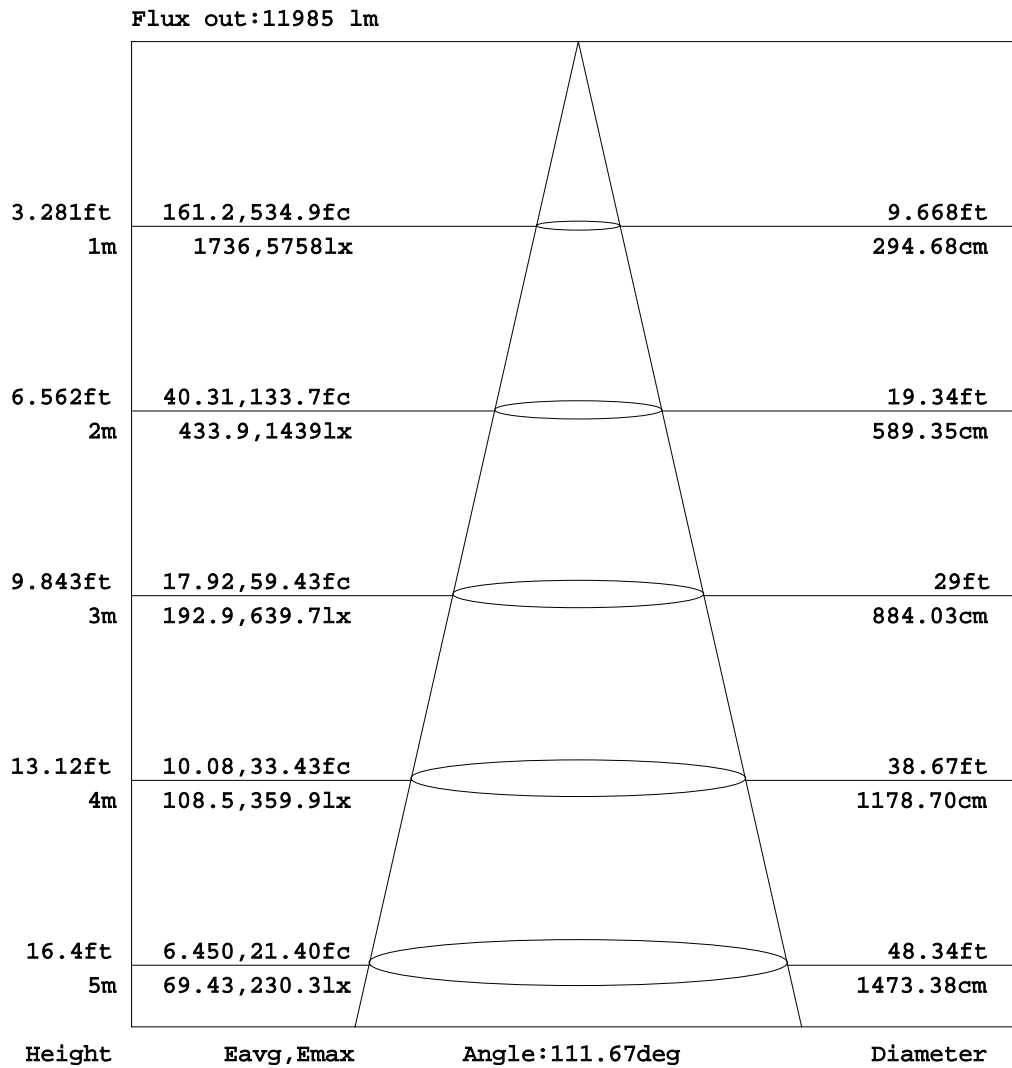


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-07-09

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:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



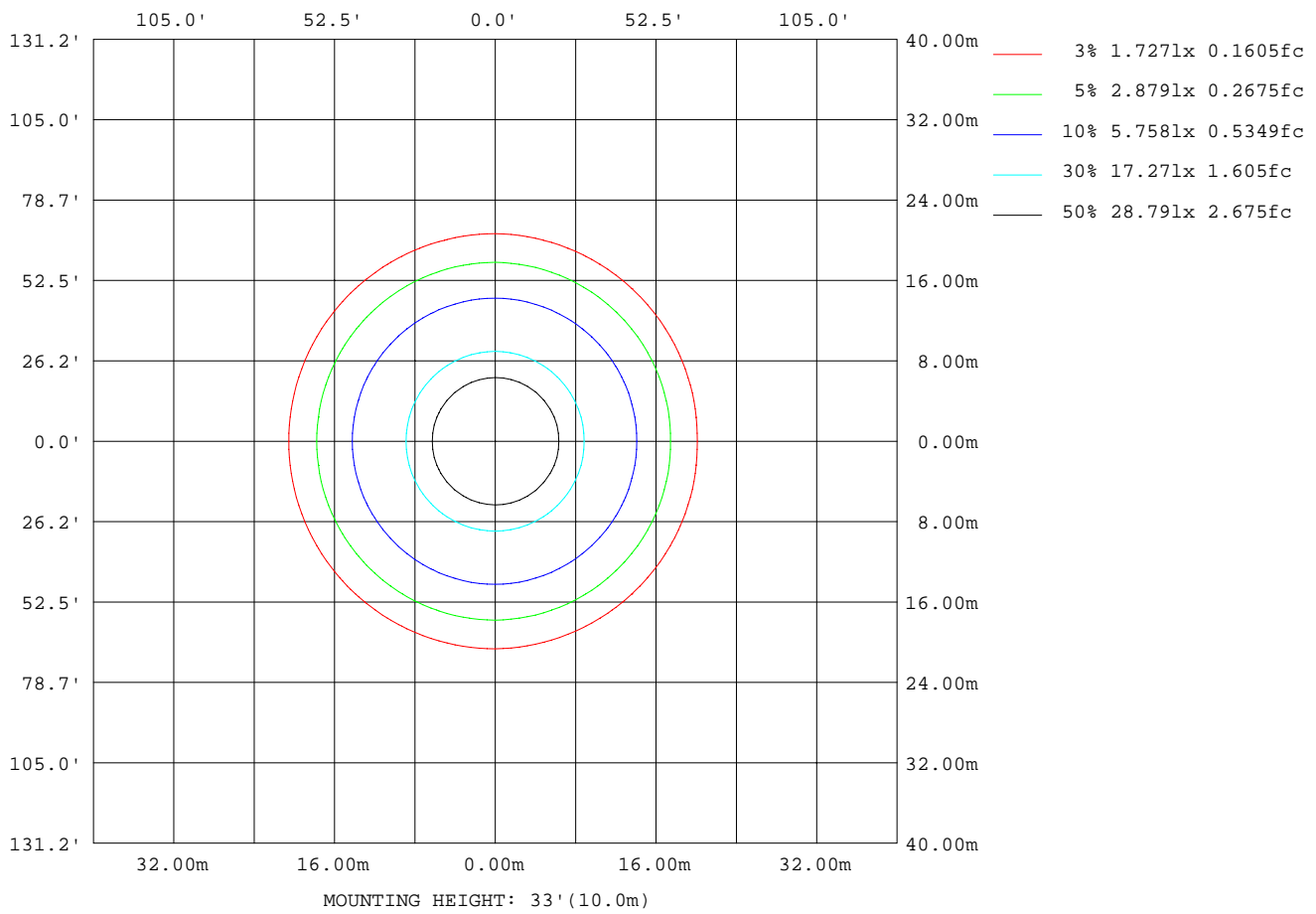
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

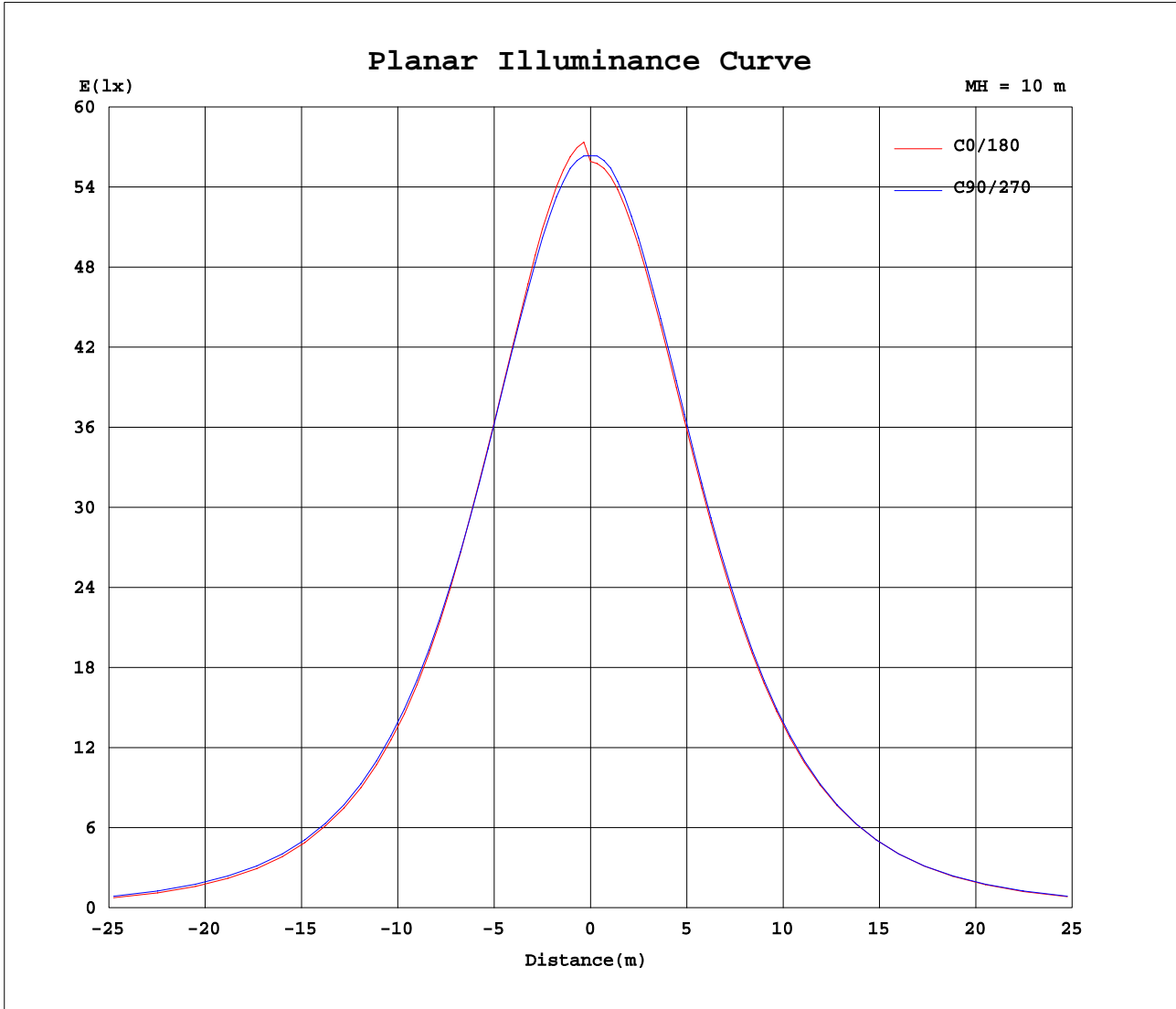
Test:U:110.4V I:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



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:

Planar Illuminance Curve



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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:110.4V I:1.321A P:144.4W PF:0.9909 Lamp Flux:15781.2x1 lm		
NAME: ASD-FLSL-150N50Y-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	5655	5655	5655	5655															
5	5636	5659	5645	5659															
10	5557	5597	5573	5597															
15	5471	5513	5494	5513															
20	5259	5340	5321	5340															
25	5106	5197	5172	5197															
30	4828	4914	4897	4914															
35	4587	4698	4672	4698															
40	4156	4310	4289	4310															
45	3833	4017	3999	4017															
50	3328	3508	3502	3508															
55	2972	3126	3138	3126															
60	2311	2521	2534	2521															
65	1866	2113	2088	2113															
70	1199	1417	1373	1417															
75	767	862	882	862															
80	236	265	266	265															
85	52.7	49.0	50.8	49.0															
90	1.66	0.62	0.54	0.62															
95	0.50	0.54	0.52	0.54															
100	1.22	1.11	1.08	1.11															
105	1.84	1.63	1.66	1.63															
110	2.95	2.62	2.63	2.62															
115	3.67	3.39	3.35	3.39															
120	4.74	4.46	4.43	4.46															
125	5.41	5.19	5.07	5.19															
130	6.35	6.11	6.02	6.11															
135	6.92	6.71	6.65	6.71															
140	7.74	7.54	7.49	7.54															
145	8.24	8.12	8.01	8.12															
150	8.87	8.79	8.68	8.79															
155	9.29	9.21	9.11	9.21															
160	9.86	9.81	9.69	9.81															
165	10.2	10.2	10.1	10.2															
170	10.6	10.6	10.5	10.6															
175	10.7	10.8	10.6	10.8															
180	10.9	11.0	10.8	11.0															

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: