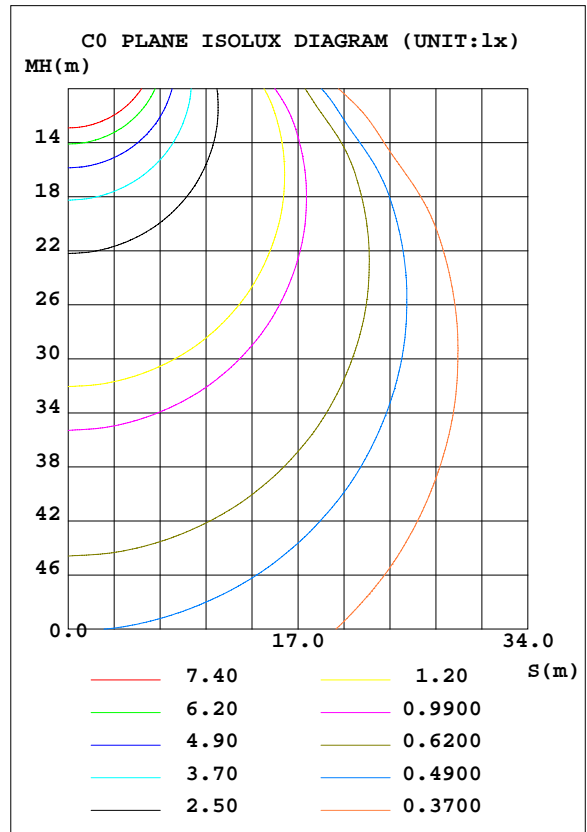
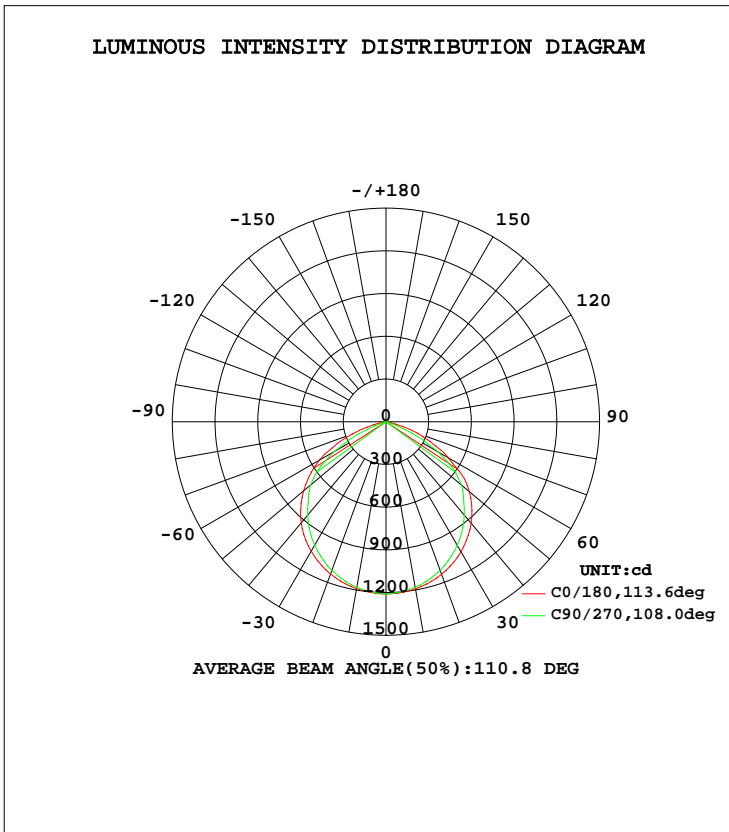


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.55 lm/W			
MODEL	ASD-FLSL-30N30A-XX	I _{max} (cd)	1210	S/MH(C0/180)	1.29
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	3105.0	η UP, DN(C0-180)	0.1, 50.1
NOMINAL FLUX(lm)	3105.03	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 49.7
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	110.8	η down(%)	99.8	CIBSE SHR MAX	1.35



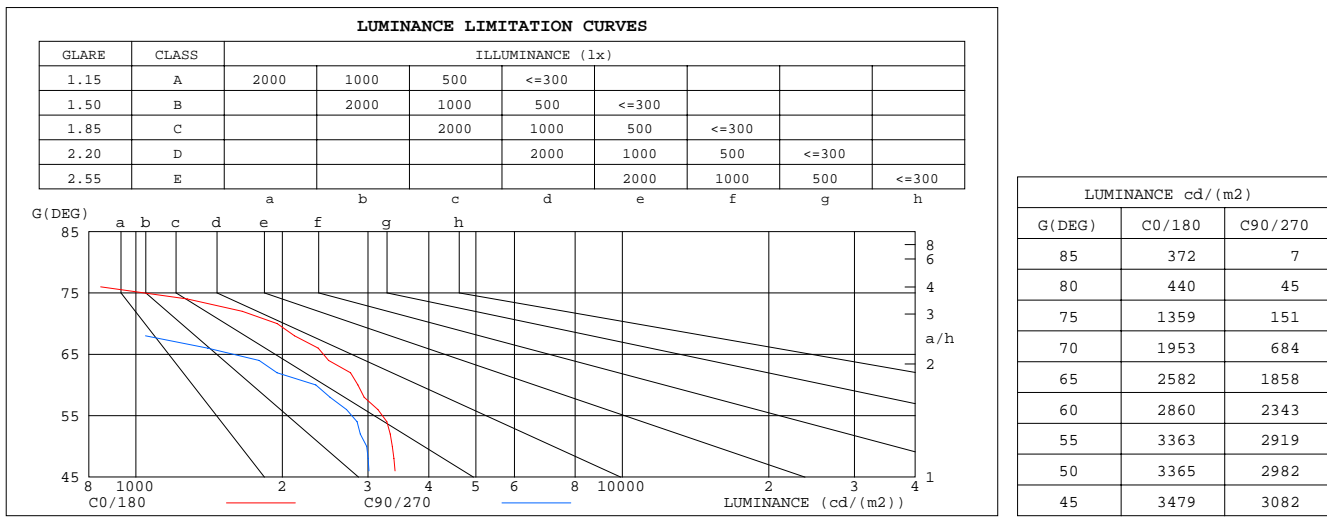
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-07-09

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	1191	1182	1191	1182				0- 10	114.2	114.2	3.68,3.68	
20	1140	1111	1138	1111				10- 20	327.6	441.8	14.2,14.2	
30	1054	1001	1051	1001				20- 30	498.1	939.9	30.3,30.3	
40	931.2	856.4	926.3	856.4				30- 40	603.1	1543	49.7,49.7	
50	764.3	692.8	754.2	692.8				40- 50	626.1	2169	69.9,69.9	
60	505.2	423.5	541.3	423.5				50- 60	542.4	2711	87.3,87.3	
70	235.9	84.52	252.1	84.52				60- 70	309.3	3021	97.3,97.3	
80	26.97	2.847	22.01	2.847				70- 80	72.41	3093	99.6,99.6	
90	2.694	0	1.369	0				80- 90	5.868	3099	99.8,99.8	
100	0.0419	0.1932	0	0.1932				90-100	0.3472	3099	99.8,99.8	
110	0.4817	0.6218	0.4526	0.6218				100-110	0.3134	3100	99.8,99.8	
120	0.7752	0.9864	0.8634	0.9864				110-120	0.7195	3100	99.9,99.9	
130	1.173	1.308	1.187	1.308				120-130	0.9595	3101	99.9,99.9	
140	1.425	1.544	1.468	1.544				130-140	1.062	3102	99.9,99.9	
150	1.697	1.780	1.705	1.780				140-150	1.018	3103	99.9,99.9	
160	1.865	1.951	1.878	1.951				150-160	0.8421	3104	100,100	
170	2.011	2.080	2.007	2.080				160-170	0.5605	3105	100,100	
180	2.074	2.101	2.072	2.101				170-180	0.1968	3105	100,100	
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			



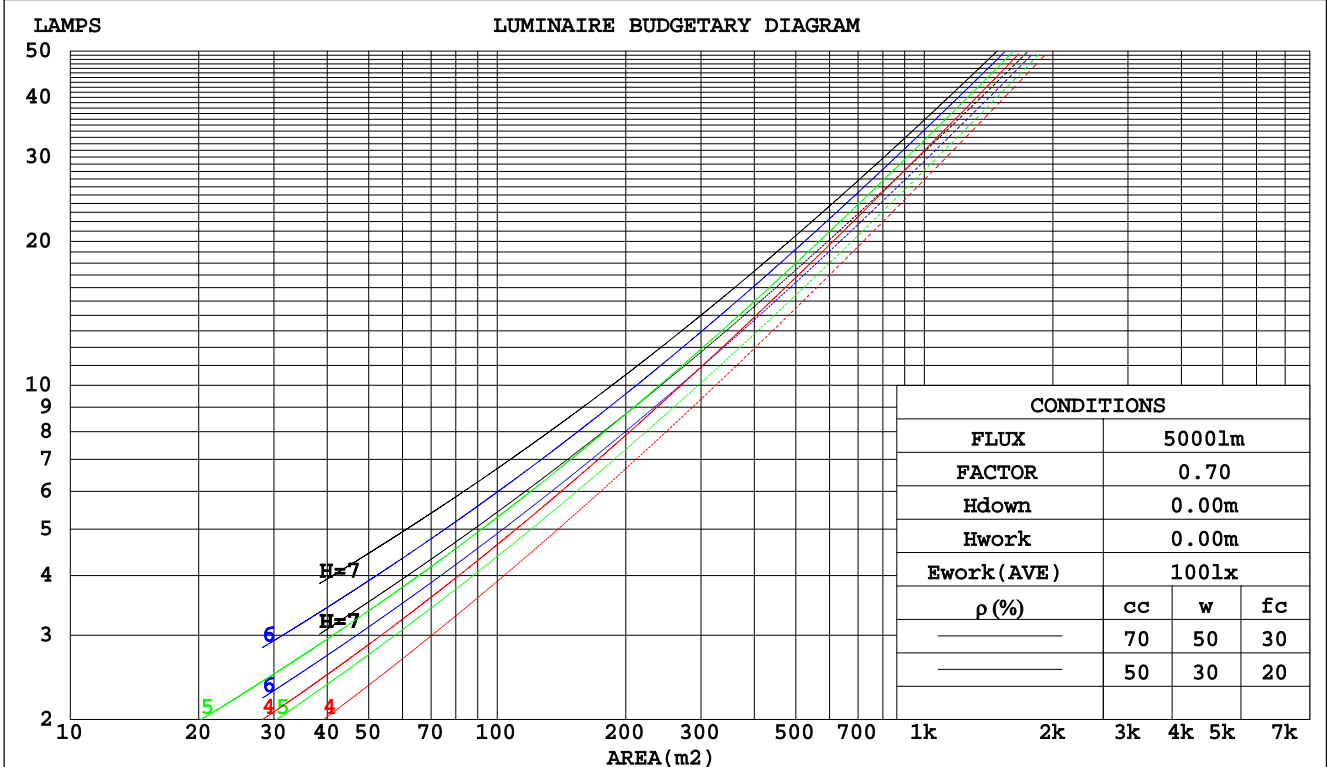
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-07-09

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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-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%	
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	1.06	1.03	.99	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.88	.83	.92	.86	.82	.88	.84	.80	.85	.81	.78	.82	.79	.76	.74
3.0	.83	.76	.70	.82	.75	.69	.79	.73	.68	.76	.71	.67	.73	.69	.65	.63
4.0	.74	.66	.59	.73	.65	.59	.70	.63	.58	.68	.62	.57	.66	.61	.57	.55
5.0	.66	.58	.51	.65	.57	.51	.63	.56	.51	.61	.55	.50	.59	.54	.49	.47
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.44	.55	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.53	.45	.40	.52	.45	.39	.50	.44	.39	.49	.43	.39	.37
8.0	.49	.41	.36	.49	.41	.35	.47	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.45	.37	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.30
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.29	.38	.33	.28	.27



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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-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	.264	.150	.048	.257	.146	.047	.244	.140	.045	.231	.133	.043	.220	.128	.041	
2.0	.259	.142	.043	.253	.139	.043	.241	.134	.042	.230	.129	.040	.221	.125	.039	
3.0	.246	.131	.039	.240	.129	.039	.230	.125	.038	.221	.121	.037	.212	.117	.036	
4.0	.231	.120	.035	.226	.119	.035	.217	.115	.034	.209	.112	.034	.201	.109	.033	
5.0	.217	.110	.032	.213	.109	.032	.205	.106	.031	.197	.104	.031	.190	.102	.031	
6.0	.203	.102	.029	.199	.101	.029	.192	.098	.029	.185	.096	.028	.179	.094	.028	
7.0	.190	.094	.027	.187	.093	.027	.181	.091	.026	.175	.090	.026	.169	.088	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.169	.082	.023	.166	.081	.023	.161	.079	.023	.156	.078	.022	.151	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.074	.021	.148	.073	.021	.143	.072	.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	.179	.158	.140	.153	.136	.120	.105	.093	.083	.060	.054	.048	.019	.017	.016	
2.0	.169	.134	.104	.145	.115	.089	.099	.080	.062	.057	.046	.037	.018	.015	.012	
3.0	.161	.116	.079	.138	.100	.069	.095	.069	.048	.055	.040	.028	.018	.013	.009	
4.0	.154	.102	.062	.132	.088	.054	.091	.061	.038	.053	.036	.023	.017	.012	.007	
5.0	.147	.092	.051	.126	.079	.044	.087	.055	.031	.050	.032	.018	.016	.011	.006	
6.0	.140	.083	.042	.121	.072	.037	.083	.050	.026	.048	.030	.015	.016	.010	.005	
7.0	.134	.076	.036	.115	.066	.031	.080	.046	.022	.046	.027	.013	.015	.009	.004	
8.0	.128	.070	.031	.110	.061	.027	.076	.043	.019	.044	.025	.011	.014	.008	.004	
9.0	.122	.066	.027	.105	.057	.024	.073	.040	.017	.042	.024	.010	.014	.008	.003	
10.0	.117	.061	.024	.100	.053	.021	.070	.037	.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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm										
NAME: ASD-FLSL-30N30A-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	17.0	18.4	17.3	18.6	18.8	16.3	17.8	16.6	18.0	18.2
3H	17.8	19.2	18.1	19.4	19.6	16.6	17.9	16.9	18.1	18.4
4H	17.9	19.2	18.2	19.4	19.7	16.5	17.7	16.8	18.0	18.3
6H	17.9	19.0	18.2	19.3	19.6	16.4	17.6	16.7	17.8	18.1
8H	17.8	18.9	18.2	19.2	19.5	16.3	17.5	16.7	17.8	18.0
12H	17.8	18.9	18.1	19.1	19.5	16.3	17.4	16.6	17.7	18.0
4H 2H	17.3	18.5	17.6	18.8	19.0	16.7	18.0	17.0	18.2	18.5
3H	18.2	19.3	18.5	19.6	19.9	17.0	18.1	17.4	18.4	18.7
4H	18.3	19.3	18.7	19.6	19.9	17.0	17.9	17.3	18.3	18.6
6H	18.3	19.1	18.7	19.5	19.8	16.9	17.7	17.3	18.1	18.5
8H	18.2	19.0	18.6	19.4	19.8	16.8	17.6	17.3	18.0	18.4
12H	18.2	18.9	18.6	19.3	19.7	16.8	17.5	17.2	17.9	18.3
8H 4H	18.2	19.0	18.6	19.4	19.8	16.9	17.7	17.3	18.1	18.5
6H	18.2	18.8	18.6	19.2	19.7	16.9	17.5	17.3	17.9	18.3
8H	18.2	18.7	18.6	19.2	19.6	16.8	17.4	17.3	17.8	18.3
12H	18.1	18.6	18.6	19.1	19.5	16.8	17.3	17.3	17.7	18.2
12H 4H	18.2	18.9	18.6	19.3	19.7	16.9	17.6	17.3	18.0	18.4
6H	18.1	18.7	18.6	19.1	19.6	16.8	17.4	17.3	17.8	18.3
8H	18.1	18.6	18.6	19.1	19.5	16.8	17.3	17.3	17.7	18.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.4 / - 0.6				
1.5H	+ 0.4 / - 0.7					+ 0.7 / - 1.0				
2.0H	+ 0.8 / - 0.9					+ 0.9 / - 1.4				

CIE Pub.117 Corrected 3105 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.9)

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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

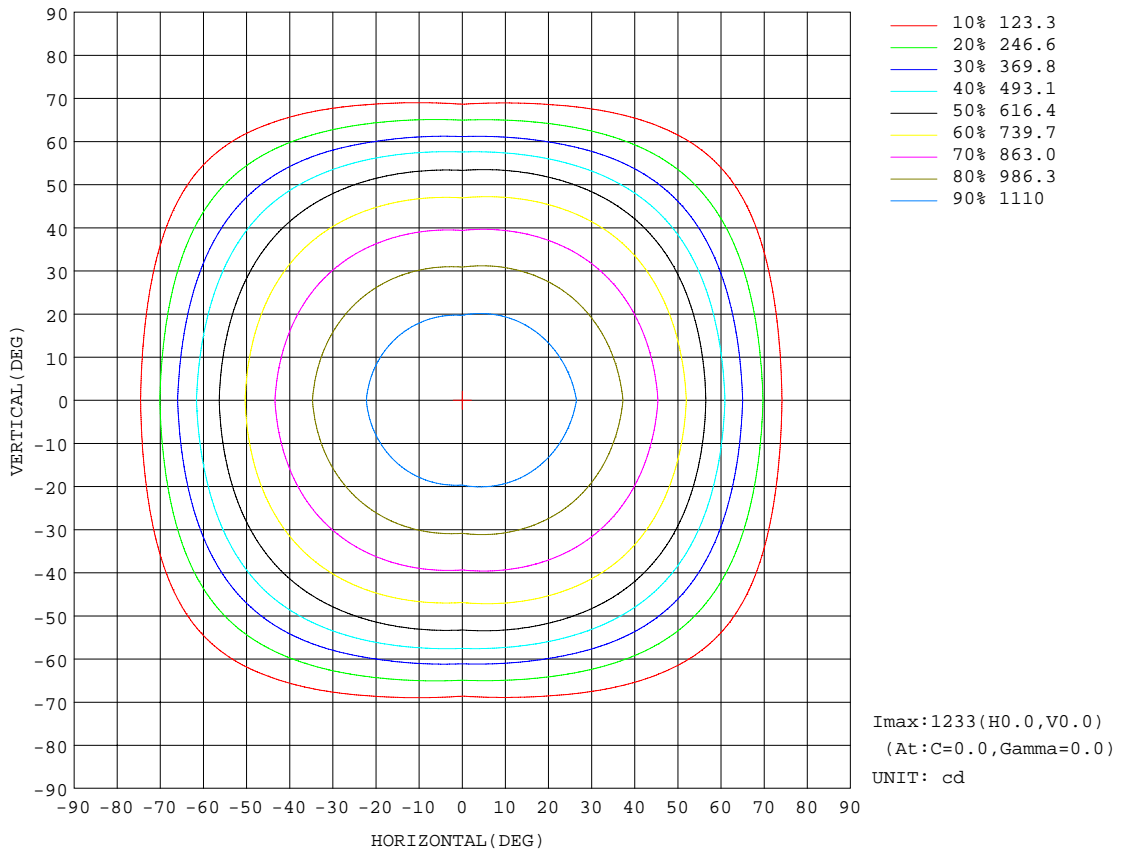
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	48	42	58	48	42	35
0.80	70	59	52	69	59	52	68	58	52	45
1.00	79	69	62	78	69	62	76	70	62	55
1.25	87	77	71	85	76	70	83	75	69	63
1.50	92	83	76	90	82	76	87	80	75	68
2.00	98	91	85	96	89	84	93	87	83	75
2.50	102	95	90	100	93	89	96	91	87	79
3.00	105	99	94	103	97	93	99	94	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

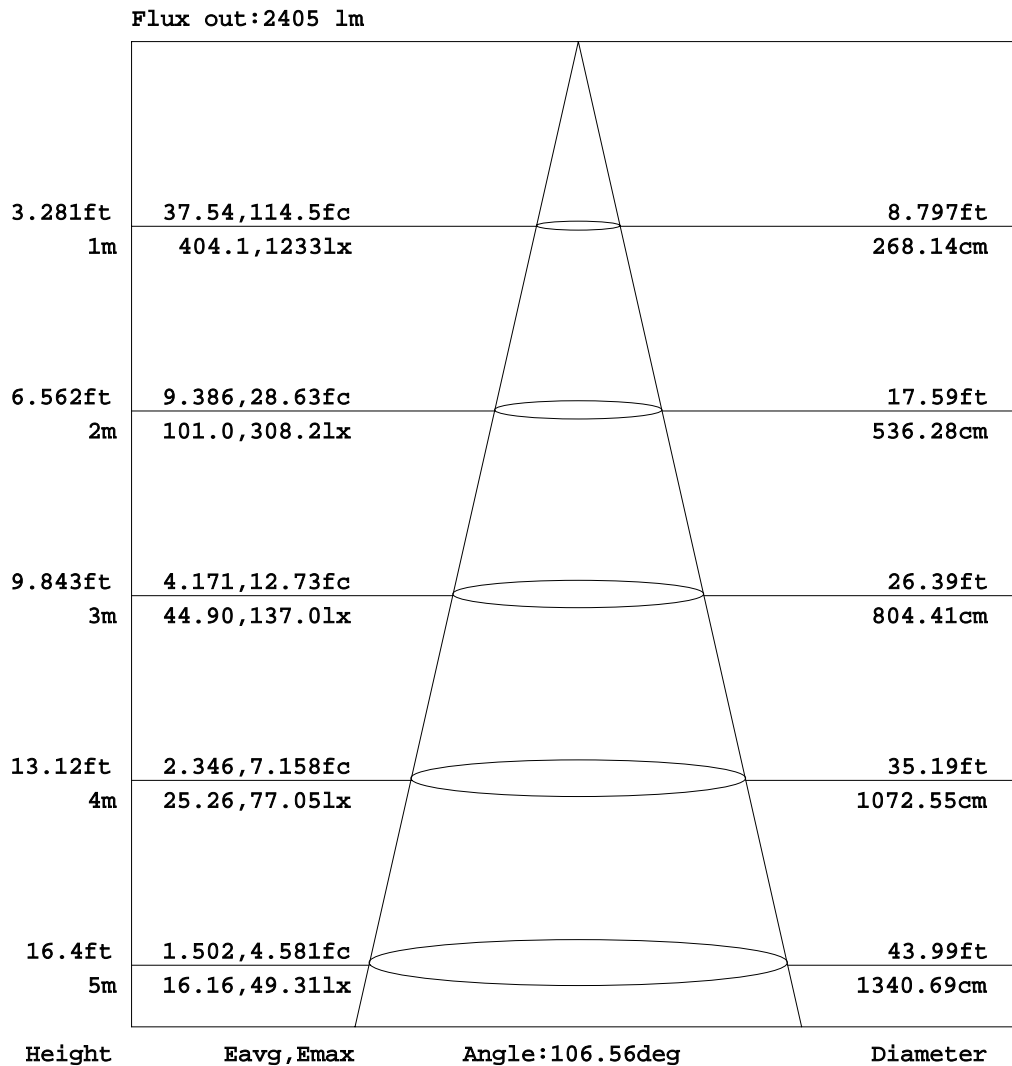


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-07-09

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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



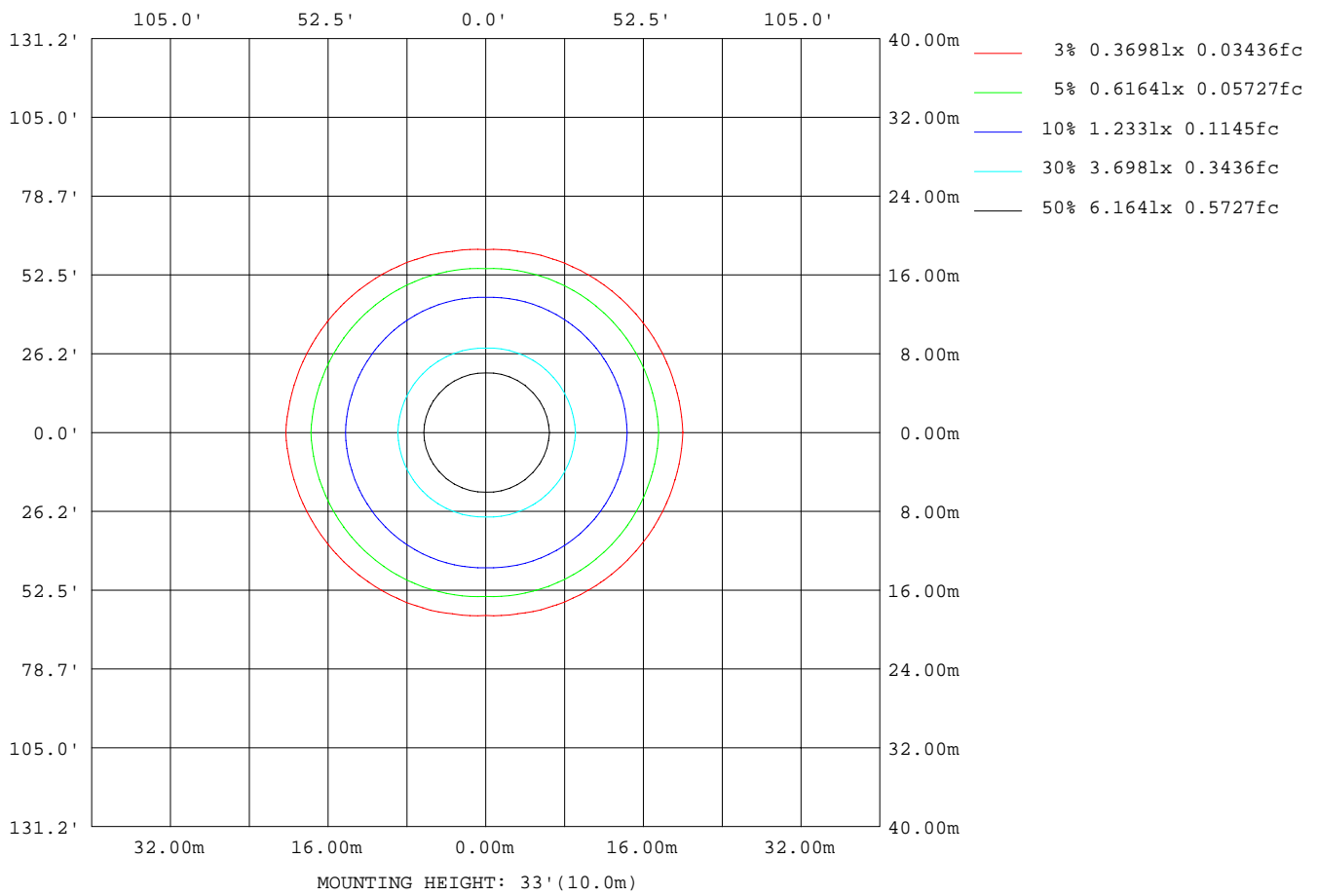
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

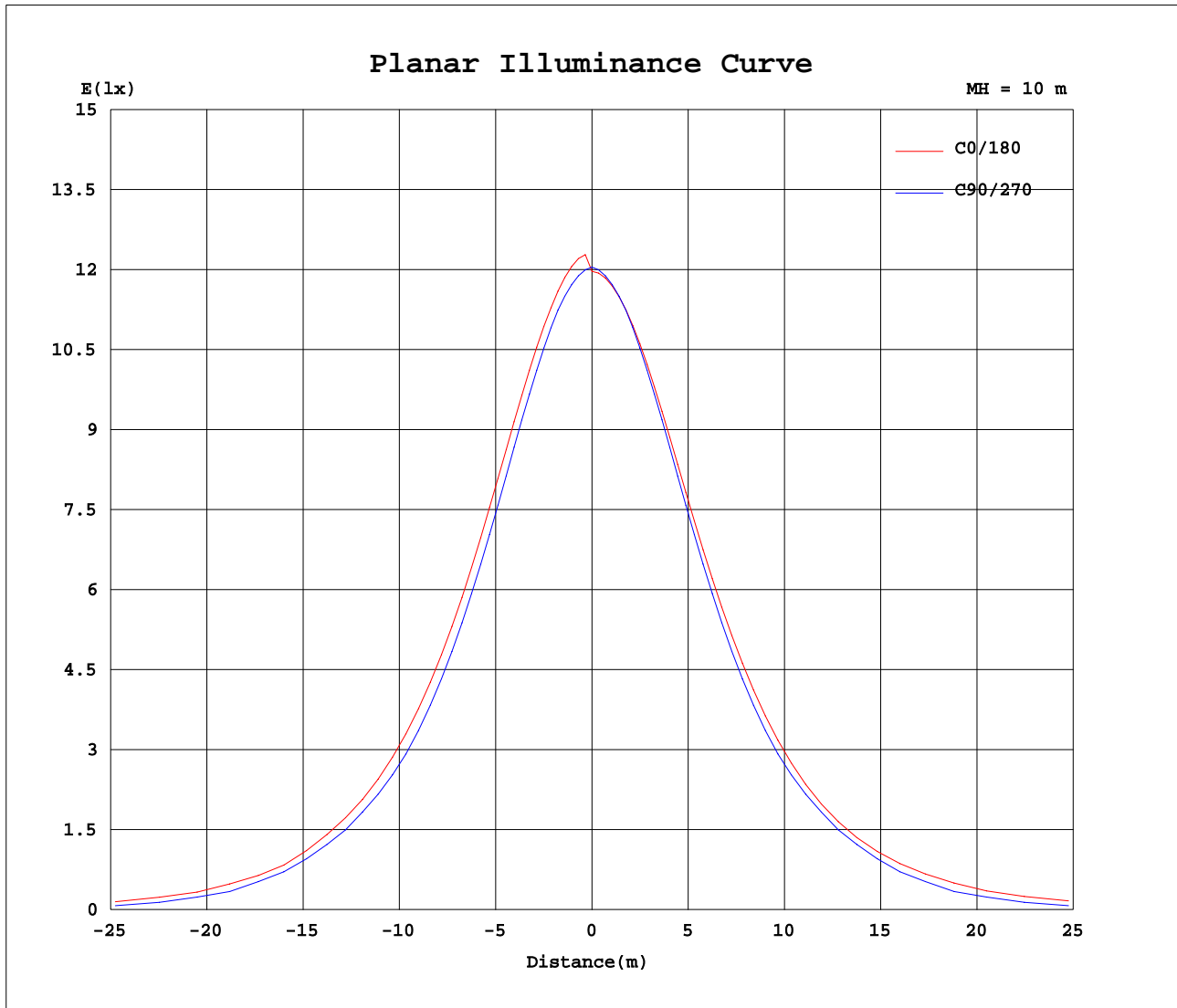
Test:U:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



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:110.7V I:0.2657A P:29.14W PF:0.9913 Lamp Flux:3105.03x1 lm		
NAME: ASD-FLSL-30N30A-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	1210	1210	1210	1210															
5	1207	1202	1206	1202															
10	1191	1182	1191	1182															
15	1175	1158	1174	1158															
20	1140	1111	1138	1111															
25	1110	1071	1107	1071															
30	1054	1001	1051	1001															
35	1009	948	1006	948															
40	931	856	926	856															
45	869	788	863	788															
50	764	693	754	693															
55	681	605	674	605															
60	505	424	541	424															
65	386	284	423	284															
70	236	84.5	252	84.5															
75	124	14.1	139	14.1															
80	27.0	2.85	22.0	2.85															
85	11.5	0.24	10.1	0.24															
90	2.69	0.00	1.37	0.00															
95	0.78	0.02	0.05	0.02															
100	0.04	0.19	0.00	0.19															
105	0.06	0.36	0.17	0.36															
110	0.48	0.62	0.45	0.62															
115	0.54	0.79	0.60	0.79															
120	0.78	0.99	0.86	0.99															
125	0.92	1.11	0.95	1.11															
130	1.17	1.31	1.19	1.31															
135	1.28	1.39	1.32	1.39															
140	1.42	1.54	1.47	1.54															
145	1.53	1.63	1.60	1.63															
150	1.70	1.78	1.71	1.78															
155	1.76	1.82	1.79	1.82															
160	1.86	1.95	1.88	1.95															
165	1.93	1.99	1.96	1.99															
170	2.01	2.08	2.01	2.08															
175	2.05	2.08	2.05	2.08															
180	2.07	2.10	2.07	2.10															

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: