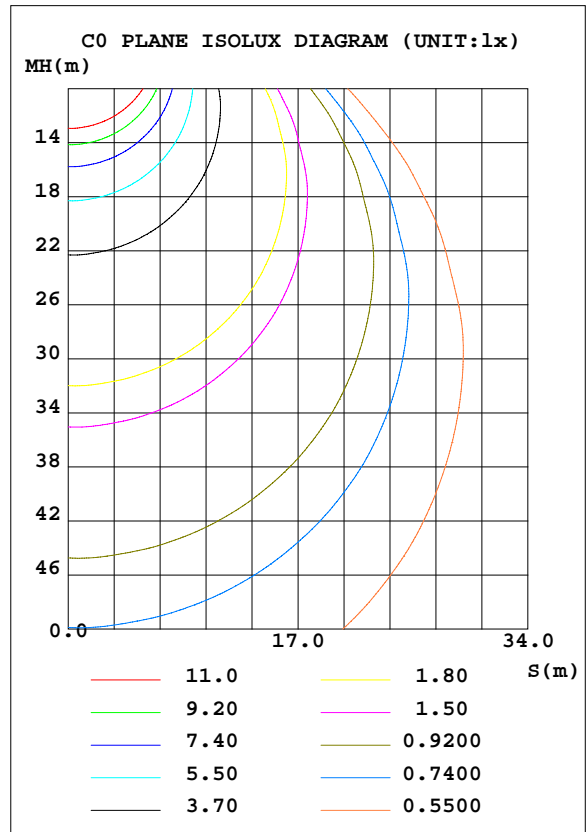
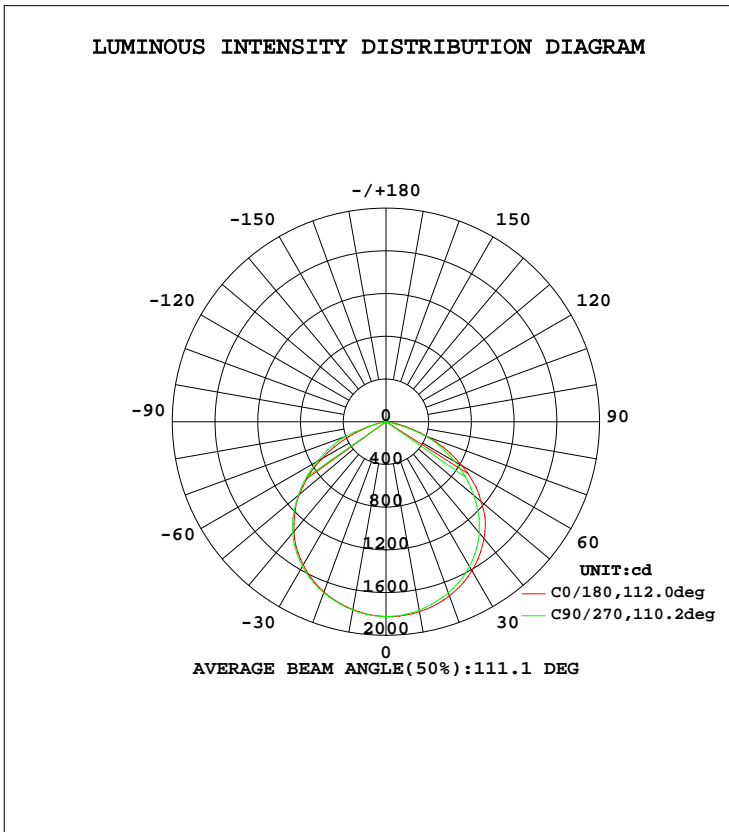


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.45 lm/W			
MODEL	ASD-FLSL-50N30A-XX	I _{max} (cd)	1827	S/MH(C0/180)	1.31
NOMINAL POWER(W)	48	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	110	TOTAL FLUX(lm)	4920.1	η UP, DN(C0-180)	0.1, 51.3
NOMINAL FLUX(lm)	4920.06	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 48.5
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	110.6	η down(%)	99.8	CIBSE SHR MAX	1.35



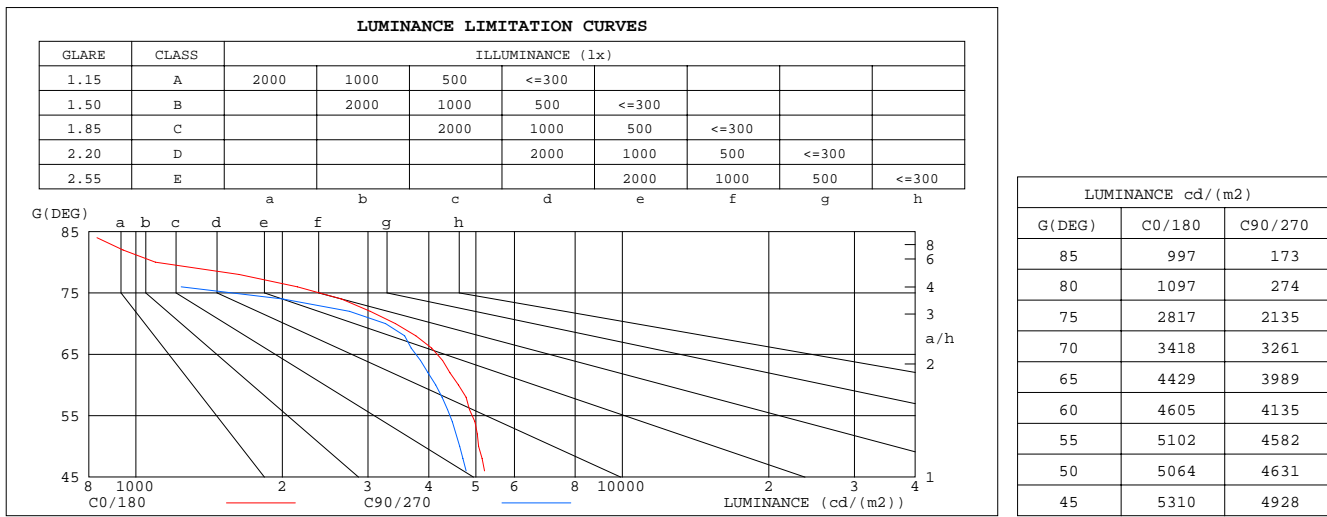
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-07-09

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	1805	1791	1786	1791				0- 10	172.7	172.7	3.51,3.51	
20	1735	1704	1698	1704				10- 20	496.4	669.1	13.6,13.6	
30	1612	1565	1549	1565				20- 30	759.9	1429	29,29	
40	1427	1360	1341	1360				30- 40	925.9	2355	47.9,47.9	
50	1161	1073	1060	1073				40- 50	957.1	3312	67.3,67.3	
60	821.2	745.2	692.7	745.2				50- 60	829.8	4142	84.2,84.2	
70	417.0	402.1	304.3	402.1				60- 70	562.1	4704	95.6,95.6	
80	67.93	17.17	40.81	17.17				70- 80	190.9	4895	99.5,99.5	
90	9.996	0.1498	2.346	0.1498				80- 90	15.51	4910	99.8,99.8	
100	0.0844	0.4064	0.4514	0.4064				90-100	0.9689	4911	99.8,99.8	
110	0.5496	0.8768	0.8592	0.8768				100-110	0.5465	4912	99.8,99.8	
120	1.206	1.390	1.505	1.390				110-120	1.089	4913	99.9,99.9	
130	1.798	1.903	2.041	1.903				120-130	1.480	4914	99.9,99.9	
140	2.263	2.331	2.428	2.331				130-140	1.651	4916	99.9,99.9	
150	2.666	2.694	2.772	2.694				140-150	1.583	4918	99.9,99.9	
160	2.941	2.972	3.031	2.972				150-160	1.315	4919	100,100	
170	3.195	3.186	3.224	3.186				160-170	0.8770	4920	100,100	
180	3.300	3.314	3.289	3.314				170-180	0.3090	4920	100,100	
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			



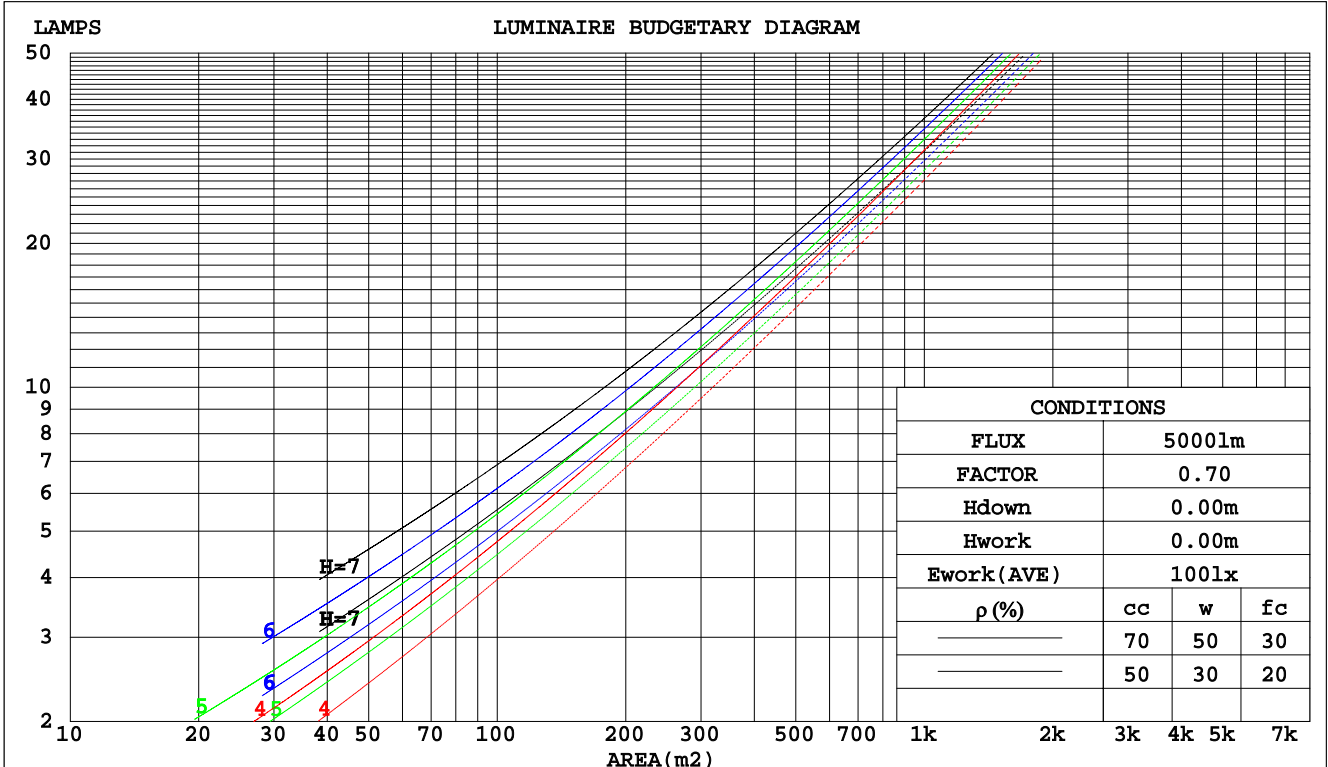
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-07-09

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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-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	1.06	1.02	.98	1.03	.90	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.73	.64	.58	.71	.63	.57	.69	.62	.57	.67	.61	.56	.64	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.50	.62	.55	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.59	.50	.44	.58	.49	.43	.56	.48	.43	.54	.48	.43	.52	.47	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.37	.35
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.44	.36	.31	.44	.36	.31	.43	.36	.31	.42	.35	.30	.41	.35	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.38	.32	.27	.26



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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-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	.276	.157	.050	.269	.153	.049	.256	.147	.047	.244	.141	.045	.232	.135	.043	
2.0	.269	.147	.045	.263	.145	.045	.251	.140	.043	.240	.135	.042	.230	.130	.041	
3.0	.254	.135	.040	.248	.133	.040	.238	.129	.039	.229	.125	.038	.220	.122	.038	
4.0	.237	.123	.036	.233	.122	.036	.223	.118	.035	.215	.115	.035	.207	.113	.034	
5.0	.222	.113	.033	.217	.112	.032	.209	.109	.032	.202	.106	.032	.195	.104	.031	
6.0	.207	.104	.030	.203	.103	.030	.196	.100	.029	.189	.098	.029	.183	.096	.029	
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.026	.172	.089	.026	
8.0	.181	.089	.025	.178	.088	.025	.173	.086	.025	.167	.085	.024	.162	.083	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.080	.023	.158	.079	.023	.153	.078	.022	
10.0	.161	.077	.021	.158	.076	.021	.154	.075	.021	.149	.074	.021	.145	.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	.139	.154	.136	.119	.105	.093	.082	.060	.054	.048	.019	.017	.016	
2.0	.171	.134	.102	.146	.115	.088	.100	.080	.062	.058	.046	.036	.019	.015	.012	
3.0	.163	.116	.078	.140	.100	.068	.096	.069	.048	.055	.041	.028	.018	.013	.009	
4.0	.155	.102	.062	.133	.088	.054	.092	.062	.038	.053	.036	.022	.017	.012	.007	
5.0	.148	.092	.050	.127	.079	.044	.088	.055	.031	.051	.033	.018	.016	.011	.006	
6.0	.142	.083	.042	.122	.072	.036	.084	.051	.026	.049	.030	.015	.016	.010	.005	
7.0	.135	.076	.035	.116	.066	.031	.080	.046	.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	.073	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.117	.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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm										
NAME: ASD-FLSL-50N30A-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	18.6	20.1	18.9	20.3	20.5	18.2	19.7	18.5	19.9	20.1
3H	19.7	21.1	20.0	21.3	21.6	19.4	20.7	19.7	21.0	21.2
4H	20.0	21.3	20.3	21.5	21.8	19.5	20.8	19.8	21.0	21.3
6H	20.0	21.2	20.3	21.5	21.7	19.4	20.6	19.8	20.9	21.2
8H	20.0	21.1	20.3	21.4	21.7	19.4	20.5	19.7	20.8	21.1
12H	19.9	21.0	20.3	21.3	21.6	19.3	20.4	19.7	20.7	21.0
4H 2H	19.1	20.4	19.4	20.6	20.9	18.8	20.1	19.1	20.3	20.6
3H	20.3	21.5	20.7	21.8	22.1	20.0	21.2	20.4	21.5	21.8
4H	20.6	21.6	21.0	22.0	22.3	20.2	21.2	20.6	21.6	21.9
6H	20.7	21.6	21.1	21.9	22.3	20.2	21.0	20.6	21.4	21.8
8H	20.6	21.5	21.1	21.8	22.2	20.1	20.9	20.5	21.3	21.7
12H	20.6	21.4	21.1	21.8	22.2	20.1	20.8	20.5	21.2	21.6
8H 4H	20.7	21.5	21.1	21.8	22.2	20.3	21.1	20.7	21.4	21.8
6H	20.7	21.4	21.2	21.8	22.2	20.2	20.9	20.7	21.3	21.7
8H	20.7	21.3	21.2	21.7	22.2	20.2	20.8	20.6	21.2	21.7
12H	20.7	21.2	21.2	21.6	22.1	20.1	20.7	20.6	21.1	21.6
12H 4H	20.6	21.4	21.0	21.8	22.2	20.2	21.0	20.6	21.4	21.8
6H	20.7	21.3	21.1	21.7	22.1	20.2	20.8	20.6	21.2	21.7
8H	20.7	21.2	21.2	21.6	22.1	20.2	20.7	20.6	21.1	21.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				
1.5H	+ 0.2 / - 0.5					+ 0.3 / - 0.6				
2.0H	+ 0.5 / - 0.6					+ 0.4 / - 0.5				

CIE Pub.117 Corrected 4920 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.5)

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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

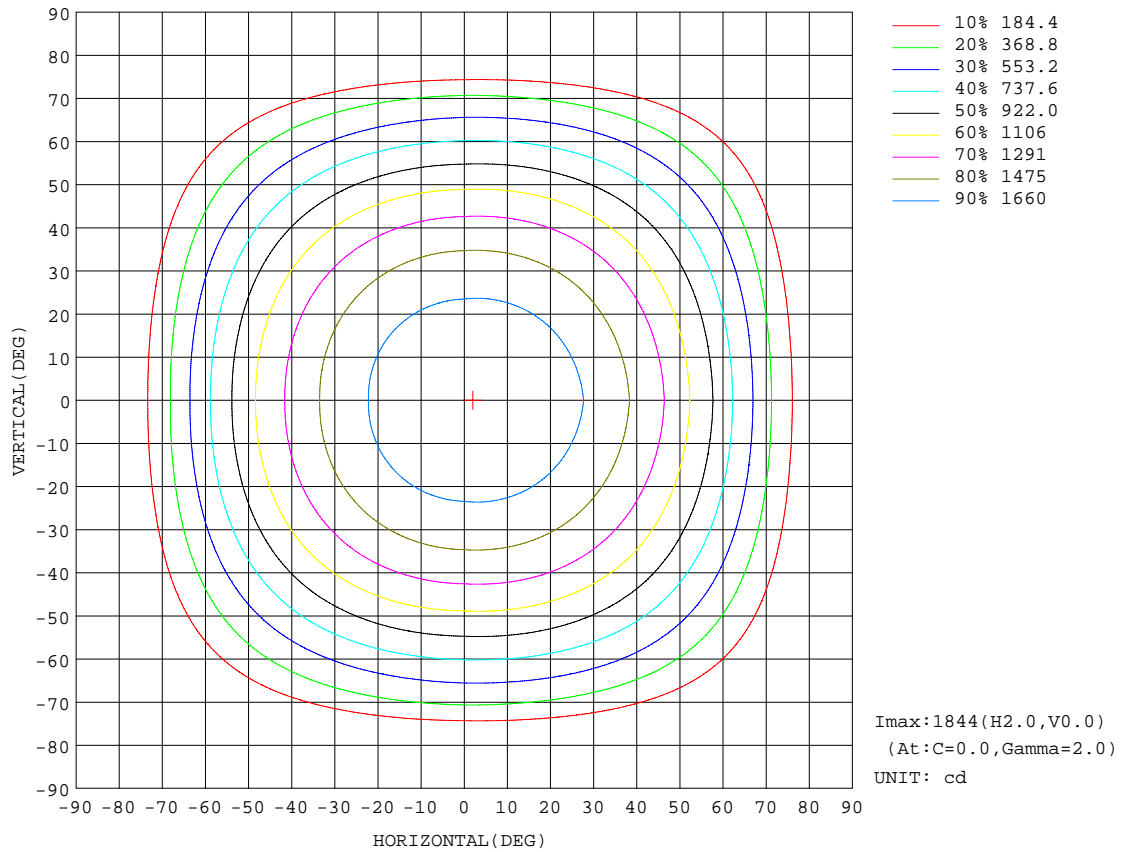
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	48	41	58	47	41	57	47	41	34
0.80	69	58	51	68	58	51	67	57	51	44
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	75	69	84	75	68	81	73	68	61
1.50	90	81	75	89	80	74	86	78	73	66
2.00	97	89	83	95	88	82	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	92	98	93	89	81
4.00	108	103	98	105	101	97	101	97	94	86
5.00	110	106	102	107	104	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

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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:

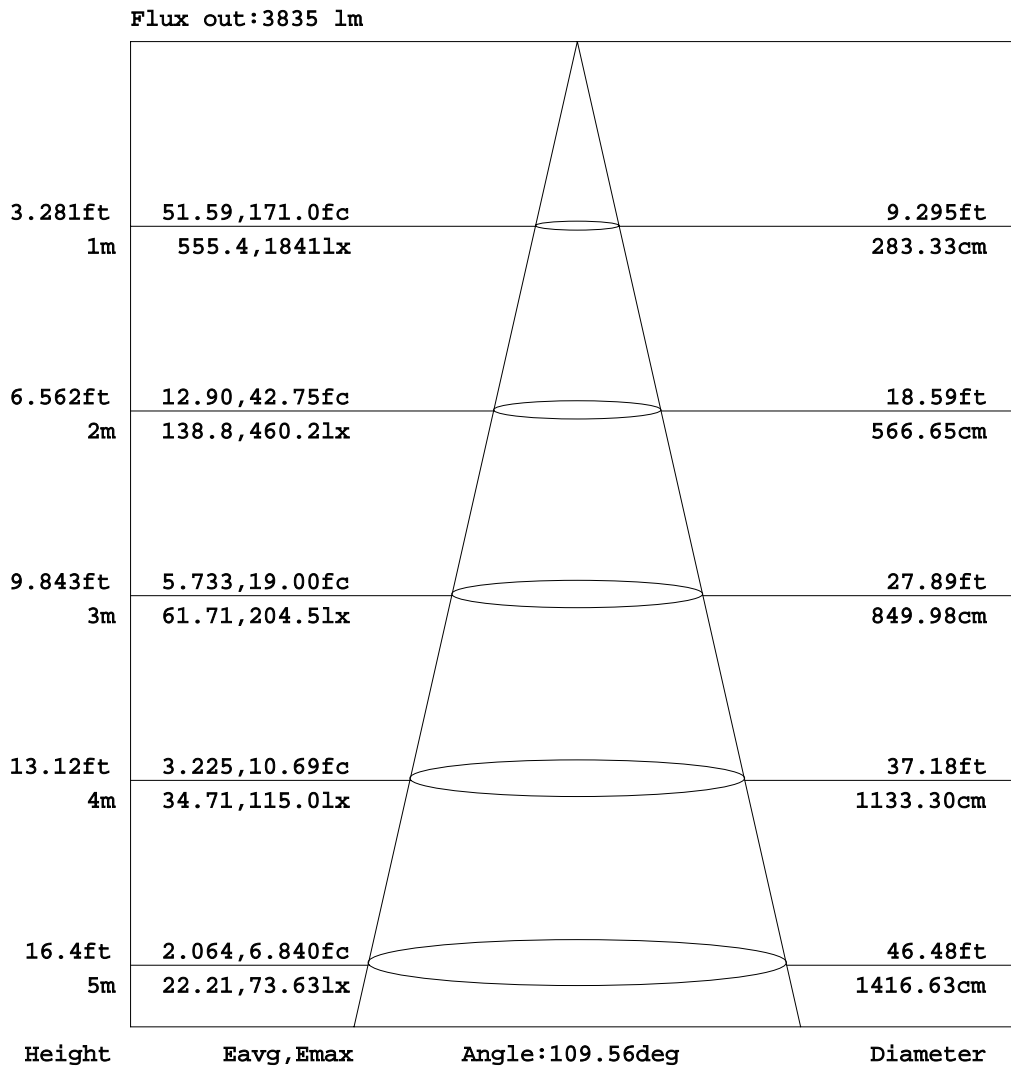


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-07-09

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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



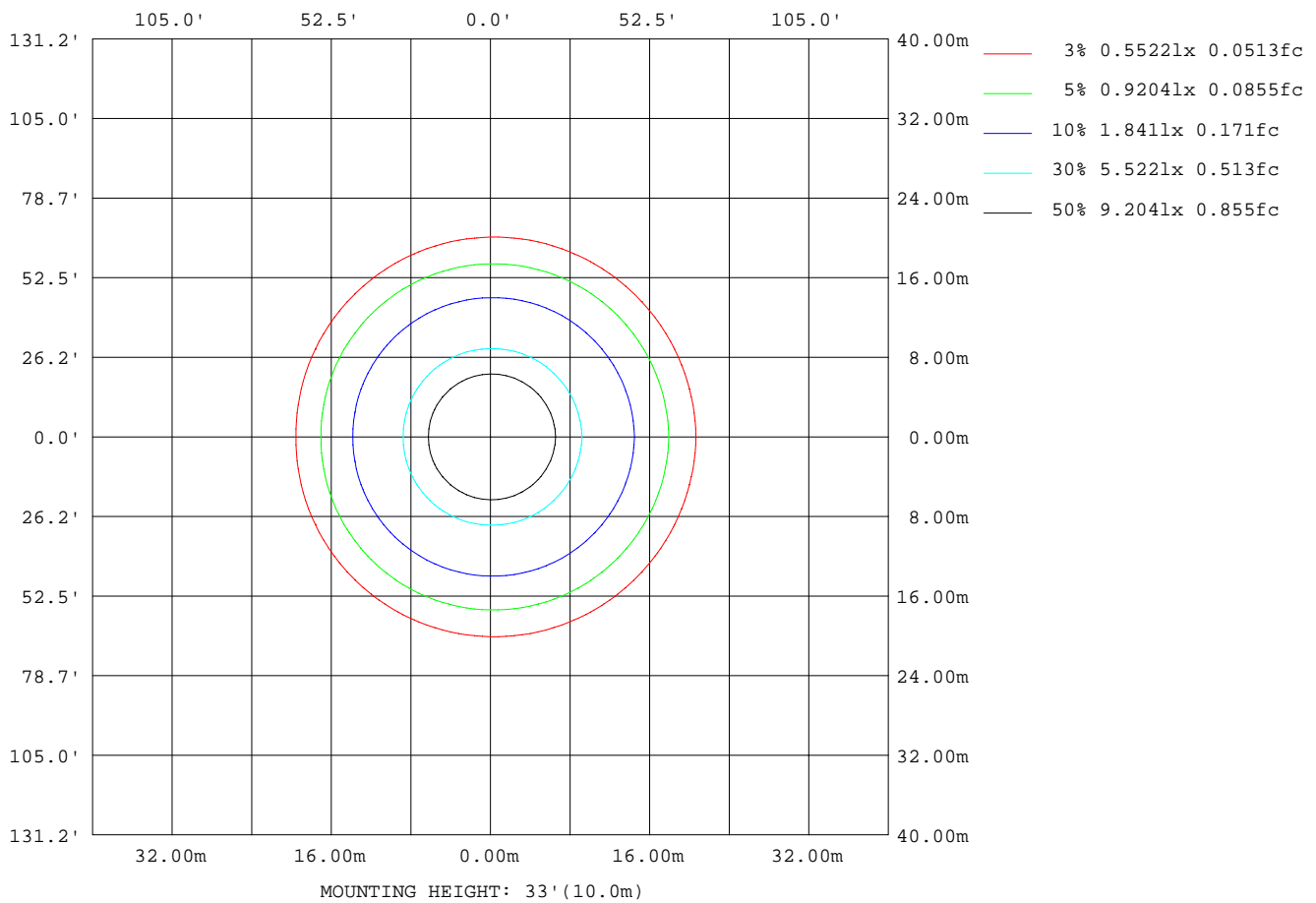
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

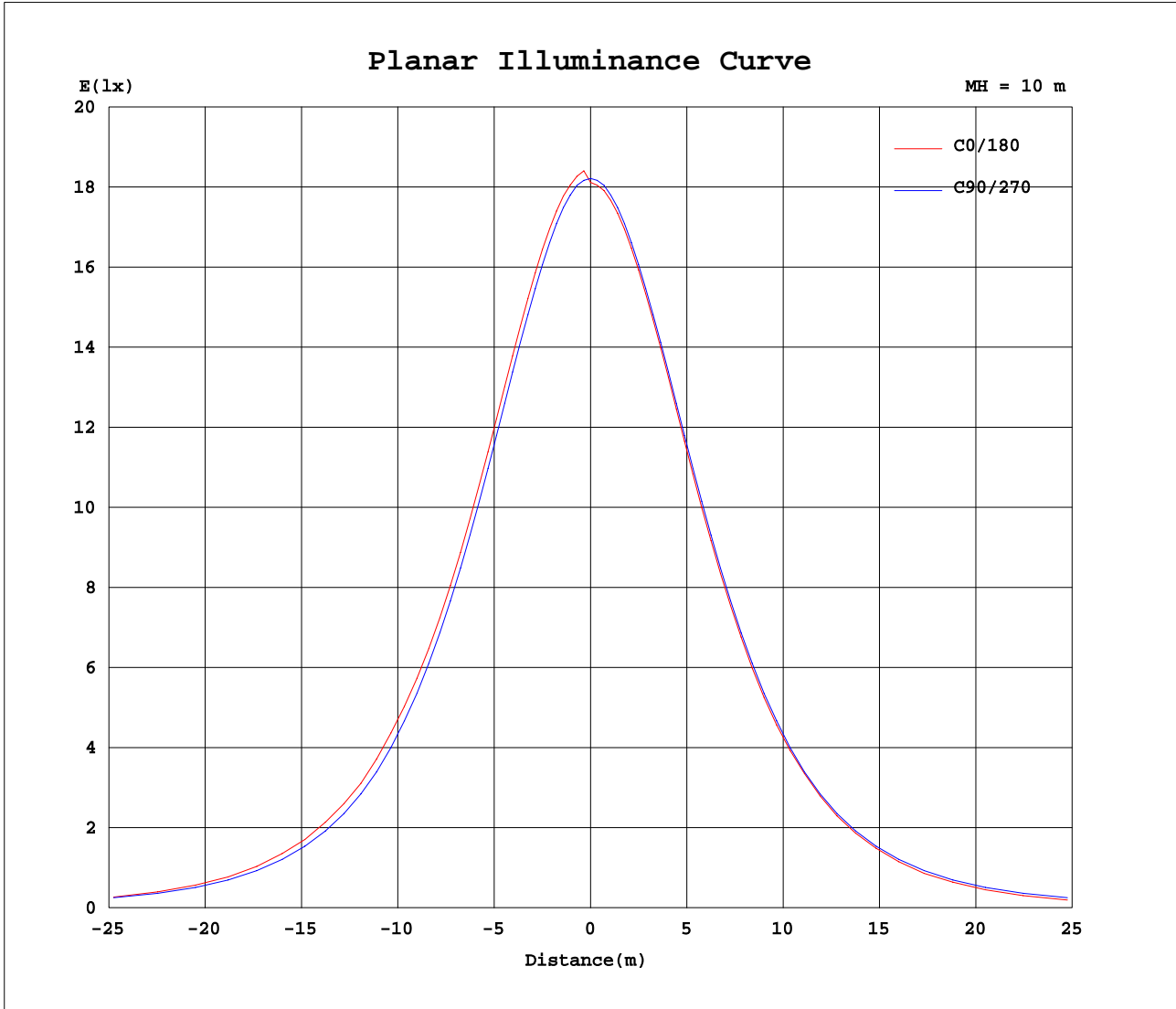
Test:U:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-XX	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:027
MFR.: ASD Lighting corp	SUR.:	PROTECTION ANGLE:



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:110.6V I:0.4427A P:48.50W PF:0.9907 Lamp Flux:4920.06x1 lm		
NAME: ASD-FLSL-50N30A-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	1824	1824	1824	1824															
5	1824	1820	1816	1820															
10	1805	1791	1786	1791															
15	1784	1761	1756	1761															
20	1735	1704	1698	1704															
25	1692	1655	1645	1655															
30	1612	1565	1549	1565															
35	1544	1491	1476	1491															
40	1427	1360	1341	1360															
45	1339	1256	1236	1256															
50	1161	1073	1060	1073															
55	1044	947	924	947															
60	821	745	693	745															
65	668	608	540	608															
70	417	402	304	402															
75	260	199	166	199															
80	67.9	17.2	40.8	17.2															
85	31.0	5.44	16.5	5.44															
90	10.00	0.15	2.35	0.15															
95	0.15	0.21	0.73	0.21															
100	0.08	0.41	0.45	0.41															
105	0.19	0.58	0.45	0.58															
110	0.55	0.88	0.86	0.88															
115	0.80	1.09	1.20	1.09															
120	1.21	1.39	1.50	1.39															
125	1.46	1.60	1.72	1.60															
130	1.80	1.90	2.04	1.90															
135	2.01	2.10	2.21	2.10															
140	2.26	2.33	2.43	2.33															
145	2.45	2.48	2.58	2.48															
150	2.67	2.69	2.77	2.69															
155	2.79	2.82	2.86	2.82															
160	2.94	2.97	3.03	2.97															
165	3.07	3.08	3.12	3.08															
170	3.19	3.19	3.22	3.19															
175	3.24	3.25	3.25	3.25															
180	3.30	3.31	3.29	3.31															

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: