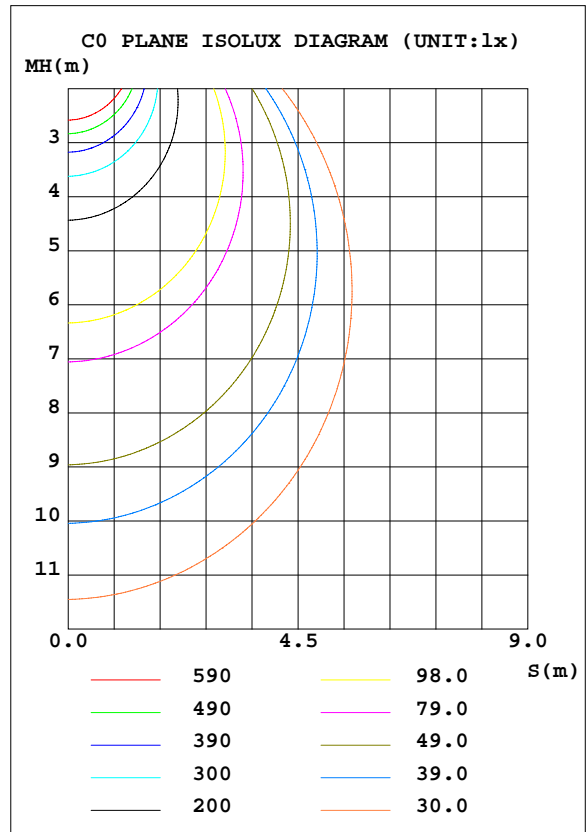
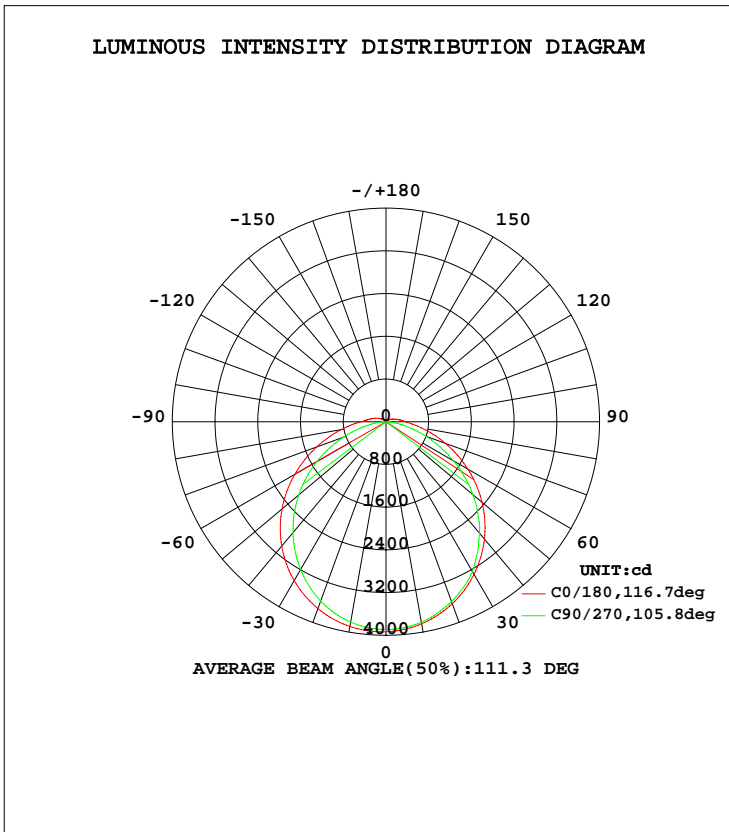


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.38 lm/W			
MODEL ASD-LVP2SM-8A120AC-20EM		Imax(cd)	3936	S/MH(C0/180)	1.25
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	17325.6	η UP, DN(C0-180)	1.7, 46.9
NOMINAL FLUX(lm)	17325.6	CIE CLASS	DIRECT	η UP, DN(C180-360)	2.1, 49.3
LAMPS INSIDE	1	η up(%)	3.9	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120.4	η down(%)	96.1	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	3842	3886	3813	3720	3893	3812	3809	3825	0- 10	368.5	368.5	3.12,3.12
20	3626	3704	3586	3474	3724	3563	3575	3685	10- 20	1055	1423	12.1,12.1
30	3298	3400	3237	3101	3438	3189	3198	3416	20- 30	1597	3020	25.6,25.6
40	2867	3001	2726	2604	3038	2709	2710	3023	30- 40	1921	4941	41.9,41.9
50	2349	2486	2123	2025	2542	2148	2134	2533	40- 50	1985	6927	58.7,58.7
60	1769	1881	1454	1391	1974	1542	1496	1973	50- 60	1782	8708	73.8,73.8
70	1183	1259	792.9	824.5	1381	961.6	846.1	1378	60- 70	1365	10073	85.3,85.3
80	680.2	714.7	269.0	385.9	851.2	494.1	310.0	818.0	70- 80	854.8	10928	92.6,92.6
90	368.6	313.4	7.639	184.9	465.4	225.3	11.93	392.7	80- 90	420.4	11348	96.1,96.1
100	238.2	163.8	3.181	103.8	302.5	128.9	5.987	181.5	90-100	202.8	11551	97.8,97.8
110	150.5	95.56	2.672	58.67	196.5	75.32	6.461	98.98	100-110	117.4	11668	98.8,98.8
120	89.79	53.45	3.463	32.73	122.0	43.63	7.160	49.79	110-120	66.55	11735	99.4,99.4
130	48.80	26.29	4.453	18.66	71.86	25.75	8.285	25.63	120-130	34.63	11770	99.7,99.7
140	24.06	14.77	5.677	11.89	39.28	16.80	10.42	14.42	130-140	17.39	11787	99.8,99.8
150	12.66	10.44	7.507	9.840	21.10	12.91	11.52	11.47	140-150	8.945	11796	99.9,99.9
160	9.808	8.899	9.166	9.249	13.45	11.84	12.69	9.600	150-160	5.209	11801	100,100
170	9.966	9.343	9.924	9.461	11.36	11.17	12.48	9.316	160-170	2.947	11804	100,100
180	10.52	10.22	10.90	10.28	10.55	10.37	10.90	10.26	170-180	0.9956	11805	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

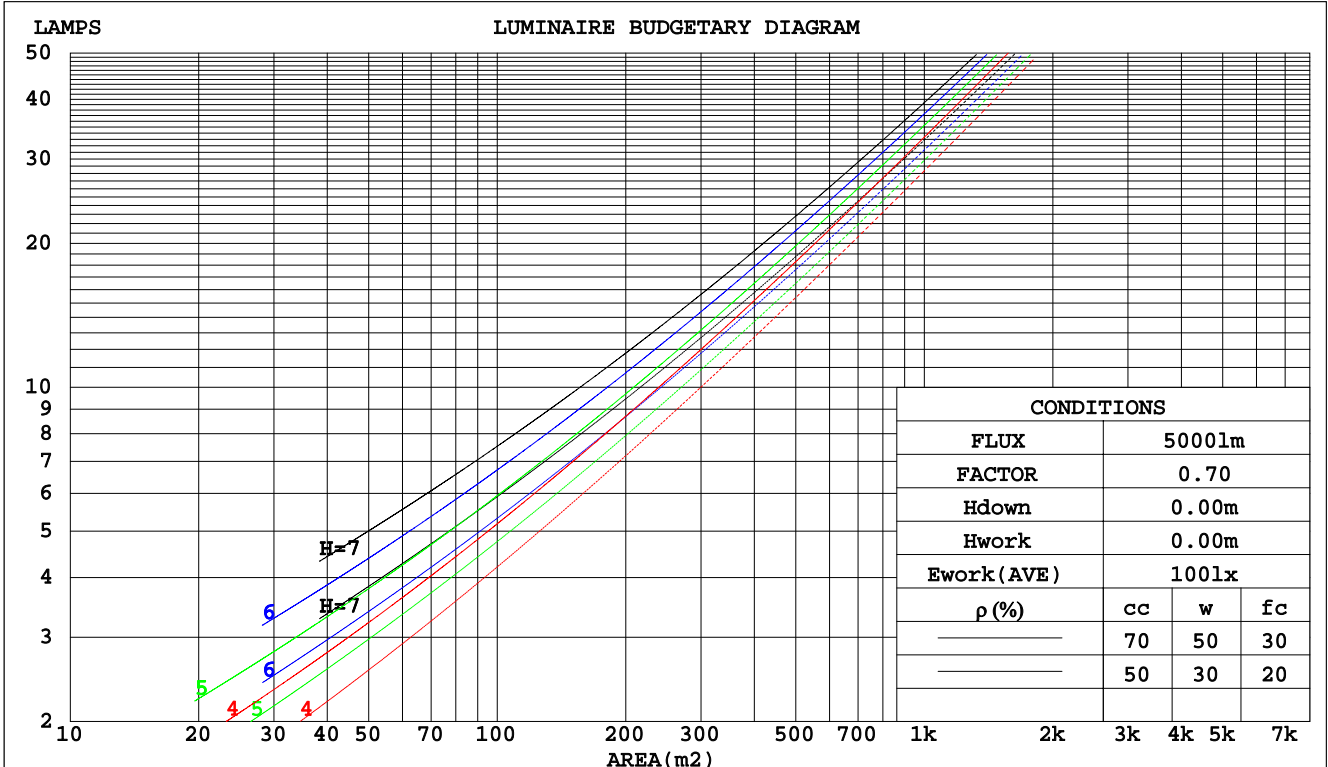
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION 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	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.98	.98	.98	.96
1.0	1.02	.97	.93	.99	.95	.91	.94	.91	.88	.90	.87	.84	.86	.83	.81	.79
2.0	.89	.82	.76	.86	.80	.74	.82	.77	.72	.78	.74	.70	.75	.71	.68	.65
3.0	.78	.69	.63	.76	.68	.62	.72	.66	.60	.69	.63	.59	.66	.61	.57	.55
4.0	.69	.60	.53	.67	.59	.52	.64	.57	.51	.61	.55	.50	.59	.53	.49	.47
5.0	.61	.52	.46	.60	.52	.45	.57	.50	.44	.55	.49	.43	.53	.47	.43	.40
6.0	.55	.46	.40	.54	.46	.39	.52	.44	.39	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.45	.39	.34	.44	.38	.33	.31
8.0	.46	.37	.31	.45	.37	.31	.43	.36	.31	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.38	.32	.27	.37	.31	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.34	.29	.24	.23



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
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	.328	.186	.059	.319	.182	.058	.304	.174	.056	.289	.167	.054	.276	.160	.052	
2.0	.300	.164	.050	.293	.161	.050	.279	.155	.048	.266	.149	.047	.254	.144	.045	
3.0	.275	.146	.044	.268	.144	.043	.256	.139	.042	.244	.134	.041	.234	.129	.040	
4.0	.252	.131	.038	.246	.129	.038	.235	.125	.037	.225	.121	.036	.215	.117	.036	
5.0	.232	.118	.034	.227	.116	.034	.217	.113	.033	.208	.110	.033	.199	.106	.032	
6.0	.215	.108	.031	.210	.106	.031	.201	.103	.030	.193	.100	.029	.185	.097	.029	
7.0	.199	.099	.028	.195	.097	.028	.187	.095	.027	.180	.092	.027	.173	.090	.026	
8.0	.186	.091	.026	.182	.090	.025	.175	.087	.025	.168	.085	.025	.162	.083	.024	
9.0	.174	.084	.024	.171	.083	.023	.164	.081	.023	.158	.079	.023	.152	.077	.022	
10.0	.164	.078	.022	.160	.077	.022	.154	.076	.021	.149	.074	.021	.144	.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	.220	.220	.220	.188	.188	.188	.128	.128	.128	.074	.074	.074	.024	.024	.024	
1.0	.211	.186	.163	.181	.159	.140	.124	.110	.097	.071	.063	.056	.023	.020	.018	
2.0	.203	.162	.127	.174	.139	.110	.119	.096	.077	.069	.056	.045	.022	.018	.015	
3.0	.195	.144	.104	.168	.125	.090	.115	.087	.063	.066	.051	.037	.021	.016	.012	
4.0	.188	.131	.088	.161	.113	.077	.111	.079	.054	.064	.046	.032	.021	.015	.010	
5.0	.180	.121	.077	.155	.105	.067	.107	.073	.047	.062	.043	.028	.020	.014	.009	
6.0	.173	.113	.069	.149	.098	.060	.103	.068	.043	.060	.040	.025	.019	.013	.008	
7.0	.166	.106	.064	.143	.092	.055	.099	.064	.039	.057	.038	.023	.019	.012	.008	
8.0	.160	.100	.059	.137	.087	.052	.095	.061	.037	.055	.036	.022	.018	.012	.007	
9.0	.153	.095	.056	.132	.083	.049	.092	.058	.035	.053	.034	.021	.017	.011	.007	
10.0	.148	.091	.053	.127	.079	.046	.088	.056	.033	.052	.033	.020	.017	.011	.007	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm										
NAME: ASD Lighting Corp					TYPE:LED			WEIGHT:		
DIM.: 2400*90*80mm					SPEC.:			SERIAL No.:		
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	21.9	23.4	22.2	23.6	23.9	21.3	22.8	21.6	23.0	23.3
3H	23.5	24.9	23.9	25.2	25.5	22.5	23.9	22.9	24.2	24.5
4H	24.3	25.6	24.7	25.9	26.2	22.9	24.2	23.3	24.5	24.9
6H	25.0	26.2	25.4	26.6	26.9	23.2	24.4	23.6	24.7	25.1
8H	25.4	26.5	25.8	26.9	27.3	23.2	24.4	23.6	24.8	25.1
12H	25.7	26.9	26.2	27.3	27.6	23.2	24.4	23.7	24.7	25.1
4H 2H	22.5	23.8	22.9	24.2	24.5	22.1	23.4	22.5	23.7	24.1
3H	24.4	25.5	24.8	25.9	26.3	23.6	24.7	24.0	25.1	25.5
4H	25.3	26.4	25.8	26.8	27.2	24.2	25.2	24.6	25.6	26.0
6H	26.2	27.1	26.7	27.6	28.0	24.6	25.5	25.0	25.9	26.4
8H	26.7	27.5	27.1	28.0	28.4	24.7	25.5	25.1	26.0	26.5
12H	27.1	27.9	27.6	28.4	28.9	24.7	25.5	25.2	26.0	26.5
8H 4H	25.7	26.5	26.1	27.0	27.4	24.7	25.5	25.2	26.0	26.5
6H	26.8	27.5	27.3	28.0	28.5	25.4	26.1	25.9	26.6	27.1
8H	27.4	28.0	27.9	28.5	29.1	25.6	26.3	26.1	26.7	27.3
12H	28.1	28.6	28.6	29.1	29.7	25.8	26.4	26.3	26.9	27.4
12H 4H	25.7	26.5	26.2	26.9	27.4	24.8	25.6	25.3	26.0	26.5
6H	26.9	27.6	27.4	28.1	28.6	25.6	26.2	26.1	26.7	27.2
8H	27.6	28.2	28.1	28.7	29.2	25.9	26.5	26.5	27.0	27.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.1 / - 0.4					+ 0.2 / - 0.5				

CIE Pub.117 Corrected 11805 lm Total Lamp Luminous Flux. (8log(F/F0) = 8.6)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

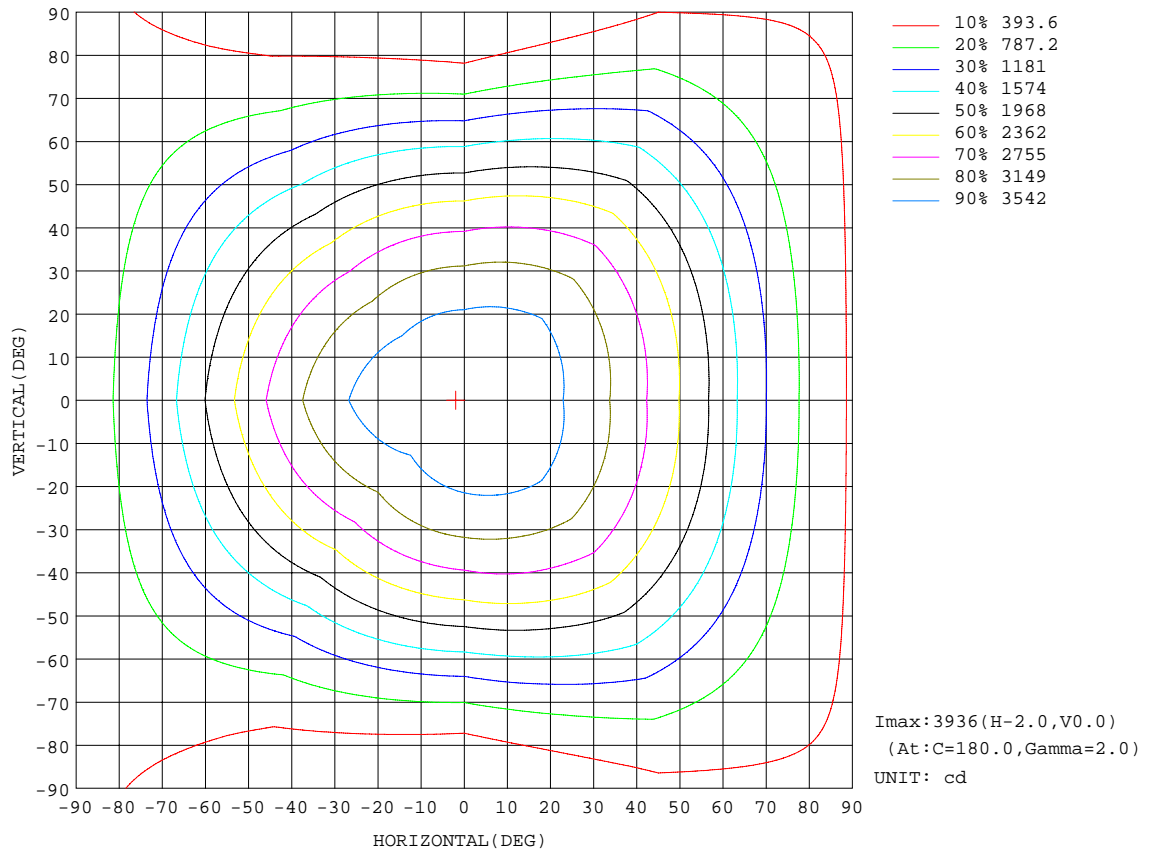
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	43	37	30
0.80	66	54	46	64	53	46	62	52	46	39
1.00	74	62	55	72	62	55	70	63	54	46
1.25	81	70	62	79	69	62	76	67	61	53
1.50	86	75	68	84	74	67	81	72	66	58
2.00	93	84	77	91	82	76	87	80	74	65
2.50	97	88	82	94	87	81	90	84	79	69
3.00	100	93	87	98	91	85	93	87	83	73
4.00	104	98	93	101	96	91	97	92	88	78
5.00	107	101	97	104	99	95	99	95	91	81
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

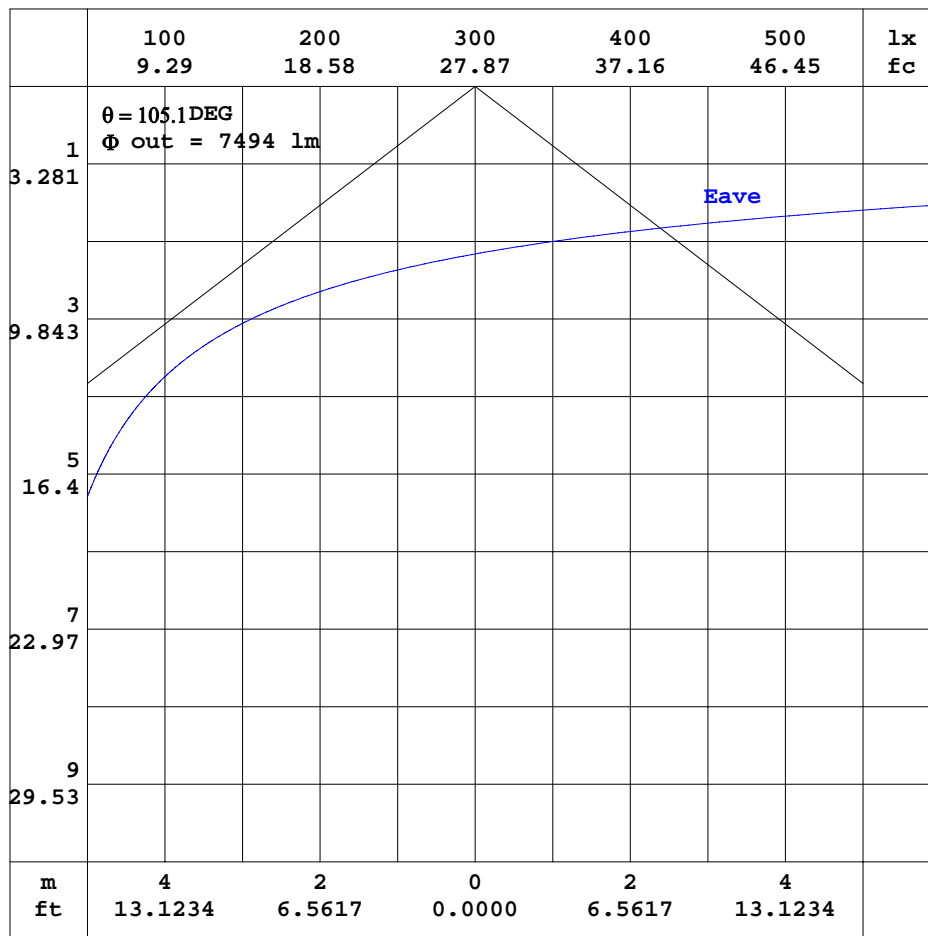


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.100m [K=1.0000]
 Remarks:

AAI CURVES

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



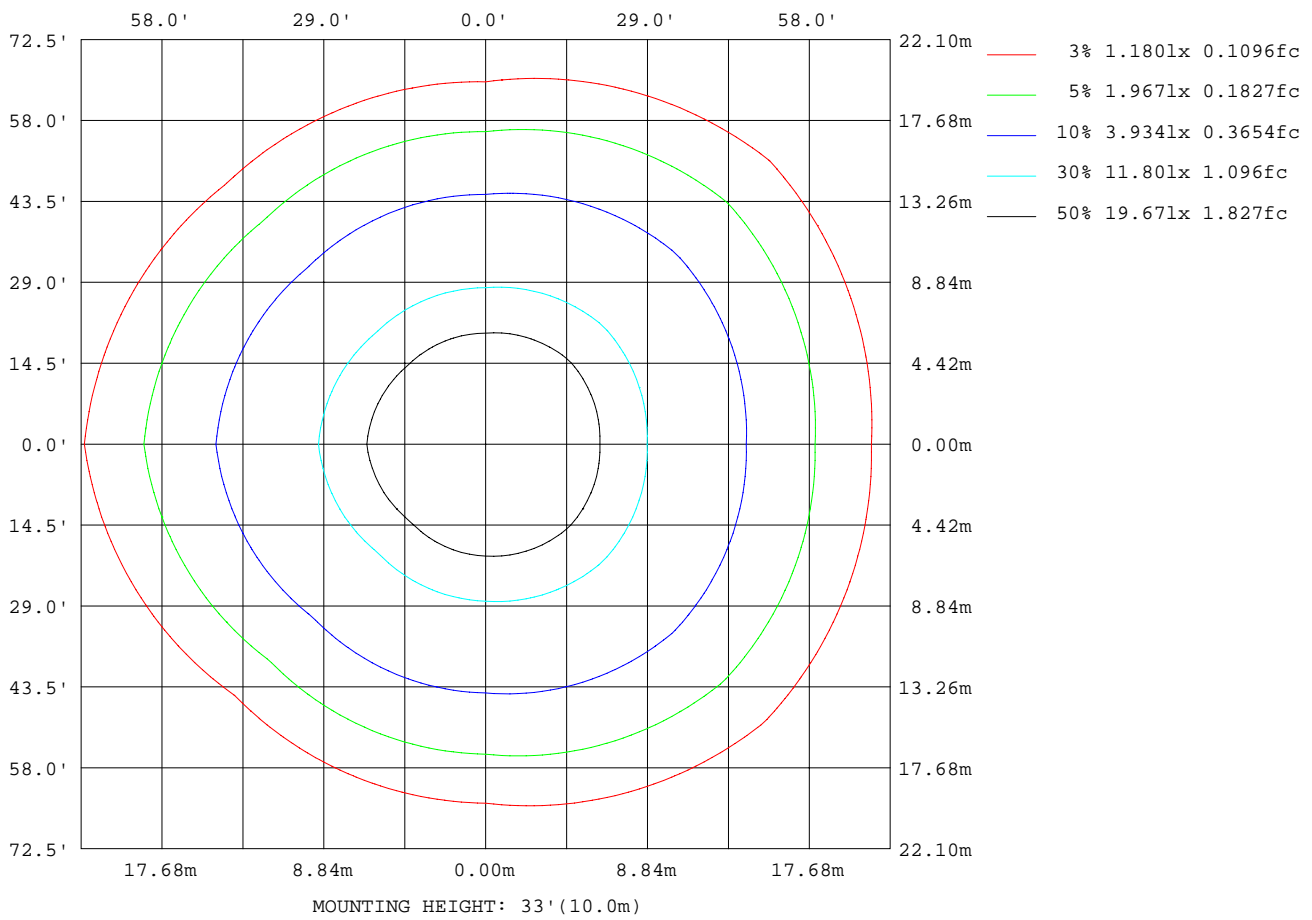
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.100m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

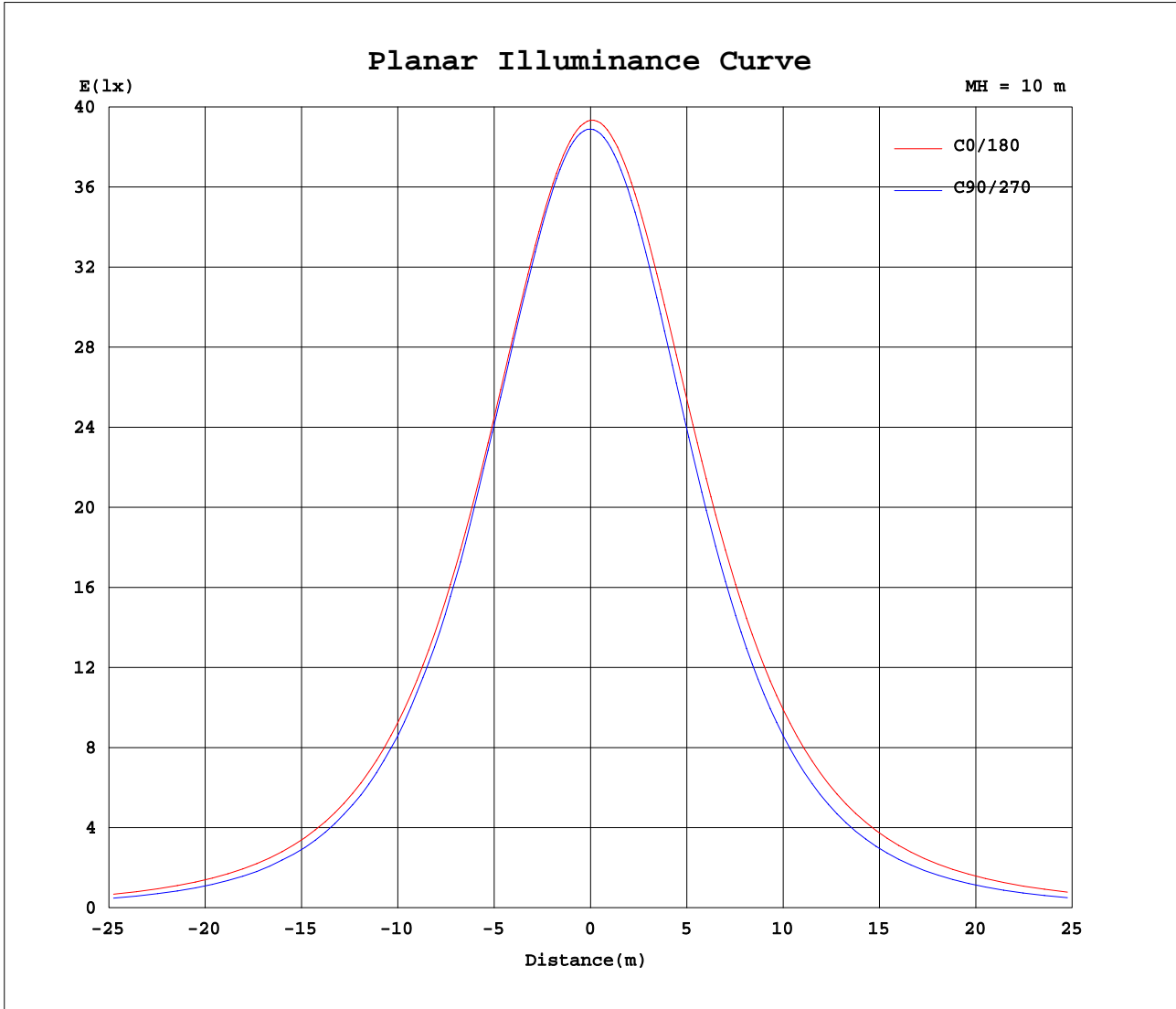
Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.100m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.4V I:0.9458A P:120.0W PF:0.9971 Lamp Flux:11805.2x1 lm		
NAME: ASD Lighting Corp	TYPE:LED	WEIGHT:
DIM.: 2400*90*80mm	SPEC.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG)\γ (DEG)	0	45	90	135	180	225	270	315											
0	3934	3923	3890	3838	3934	3923	3890	3838											
5	3905	3923	3873	3795	3930	3885	3868	3847											
10	3842	3886	3813	3720	3893	3812	3809	3825											
15	3748	3813	3712	3614	3824	3704	3712	3770											
20	3626	3704	3586	3474	3724	3563	3575	3685											
25	3476	3563	3426	3301	3595	3390	3402	3567											
30	3298	3400	3237	3101	3438	3189	3198	3416											
35	3095	3206	2989	2874	3251	2961	2966	3234											
40	2867	3001	2726	2604	3038	2709	2710	3023											
45	2618	2760	2430	2330	2801	2437	2431	2788											
50	2349	2486	2123	2025	2542	2148	2134	2533											
55	2064	2177	1792	1714	2265	1847	1821	2260											
60	1769	1881	1454	1391	1974	1542	1496	1973											
65	1472	1577	1116	1094	1677	1244	1167	1677											
70	1183	1259	793	824	1381	962	846	1378											
75	915	972	505	585	1102	709	555	1087											
80	680	715	269	386	851	494	310	818											
85	492	490	94.0	253	638	321	131	584											
90	369	313	7.64	185	465	225	11.9	393											
95	298	216	3.95	138	372	169	7.33	251											
100	238	164	3.18	104	302	129	5.99	181											
105	190	125	2.31	78.2	245	98.5	6.84	130											
110	151	95.6	2.67	58.7	197	75.3	6.46	99.0											
115	118	72.8	3.03	43.8	157	57.4	6.74	70.6											
120	89.8	53.5	3.46	32.7	122	43.6	7.16	49.8											
125	67.1	36.1	3.91	24.6	94.6	33.3	7.74	35.0											
130	48.8	26.3	4.45	18.7	71.9	25.8	8.28	25.6											
135	34.5	19.4	5.02	14.4	53.5	20.4	8.89	19.2											
140	24.1	14.8	5.68	11.9	39.3	16.8	10.4	14.4											
145	16.9	11.9	6.62	10.5	27.8	14.4	11.0	11.4											
150	12.7	10.4	7.51	9.84	21.1	12.9	11.5	11.5											
155	10.6	9.36	8.55	9.46	16.4	12.3	12.1	10.3											
160	9.81	8.90	9.17	9.25	13.5	11.8	12.7	9.60											
165	9.86	8.83	9.47	9.13	12.2	11.6	12.2	9.35											
170	9.97	9.34	9.92	9.46	11.4	11.2	12.5	9.32											
175	10.0	9.91	10.3	10.4	10.8	10.5	11.7	9.90											
180	10.5	10.2	10.9	10.3	10.5	10.4	10.9	10.3											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-04-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.100m [K=1.0000]
 Remarks: