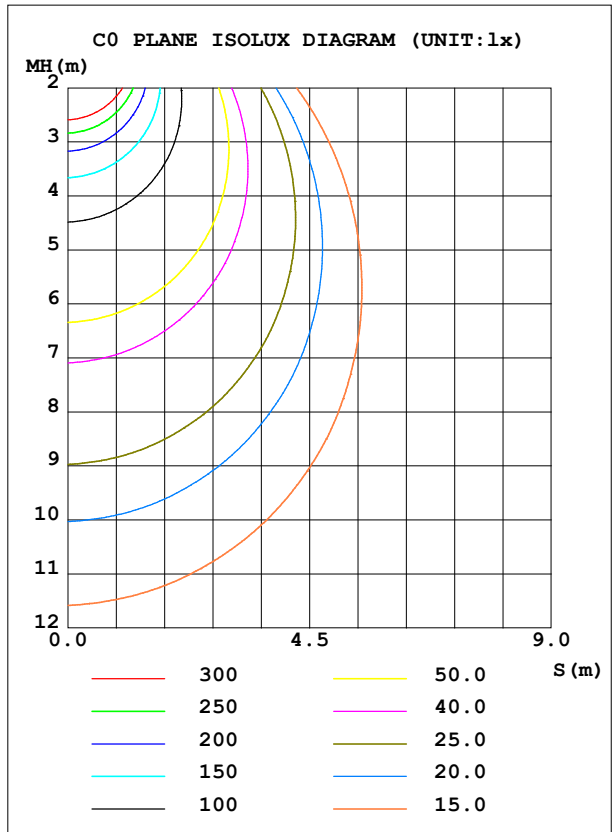
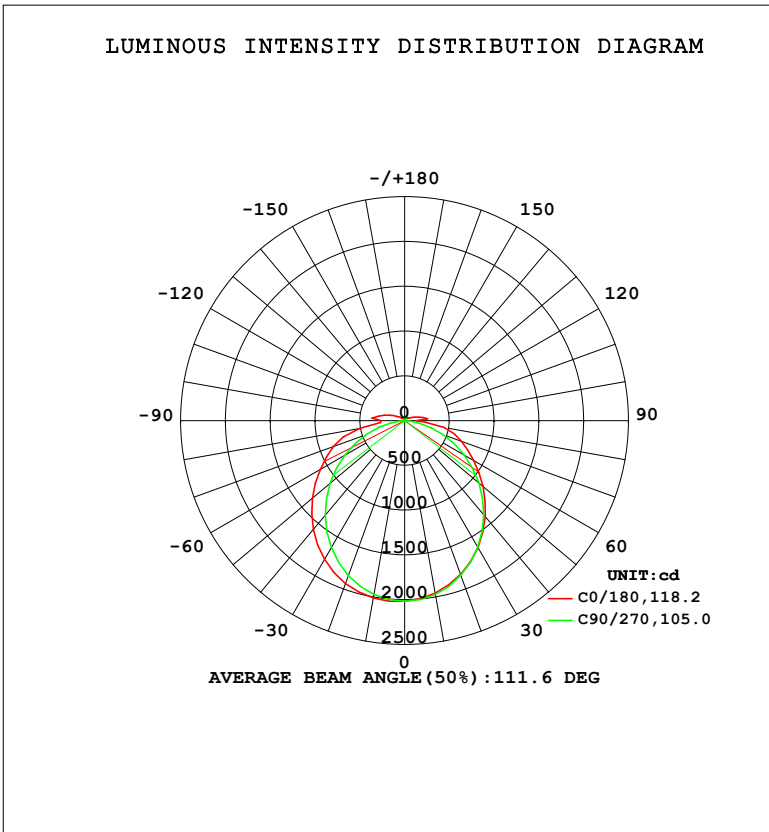


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC	45W	5000K 277V
MFR.: ASD Lighting Corp		

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	2022	S/MH (C0/180)	1.32
NOMINAL POWER (W)	45	LOR (%)	100.0	S/MH (C90/270)	1.21
RATED VOLTAGE (V)	277	TOTAL FLUX (lm)	6312.8	η UP, DN (C0-180)	3.1, 45.7
NOMINAL FLUX (lm)	6312.79	CIE CLASS	DIRECT	η UP, DN (C180-360)	3.6, 47.6
LAMPS INSIDE	1	η up (%)	6.7	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	277	η down (%)	93.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1957	1955	1970	1996	2012	1998	1972	1958	0- 10	190.6	190.6	3.02,3.02
20	1828	1820	1837	1894	1936	1897	1841	1823	10- 20	543.7	734.3	11.6,11.6
30	1639	1618	1631	1719	1790	1724	1637	1620	20- 30	817.0	1551	24.6,24.6
40	1400	1363	1375	1488	1587	1497	1379	1366	30- 40	974.2	2526	40,40
50	1144	1080	1083	1216	1346	1225	1088	1081	40- 50	1001	3527	55.9,55.9
60	893.3	797.8	770.3	925.4	1087	937.2	773.2	798.1	50- 60	908.7	4436	70.3,70.3
70	673.5	547.6	454.3	654.0	844.8	663.5	455.8	543.7	60- 70	730.2	5166	81.8,81.8
80	448.1	337.6	167.2	396.9	509.3	403.1	165.8	328.8	70- 80	503.8	5670	89.8,89.8
90	132.6	75.89	2.588	150.4	261.9	157.4	1.929	76.64	80- 90	219.1	5889	93.3,93.3
100	209.8	112.1	4.435	155.7	299.5	159.4	5.001	107.5	90-100	157.8	6047	95.8,95.8
110	124.8	55.90	9.695	75.20	183.6	78.97	10.51	51.99	100-110	107.0	6154	97.5,97.5
120	70.09	34.82	15.36	35.33	99.18	39.01	16.28	30.62	110-120	56.50	6210	98.4,98.4
130	45.43	31.86	20.63	24.27	48.15	31.11	20.29	29.94	120-130	32.88	6243	98.9,98.9
140	37.05	38.50	26.97	31.02	29.92	30.77	14.44	32.11	130-140	23.91	6267	99.3,99.3
150	45.50	41.17	29.89	35.68	37.97	37.91	16.11	14.10	140-150	19.91	6287	99.6,99.6
160	39.27	30.02	32.81	15.87	33.43	32.72	18.69	31.94	150-160	14.63	6301	99.8,99.8
170	17.30	34.77	38.66	36.70	24.16	25.74	36.90	38.11	160-170	8.070	6309	99.9,99.9
180	45.55	40.00	40.66	38.53	41.57	41.68	40.41	40.36	170-180	3.340	6313	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

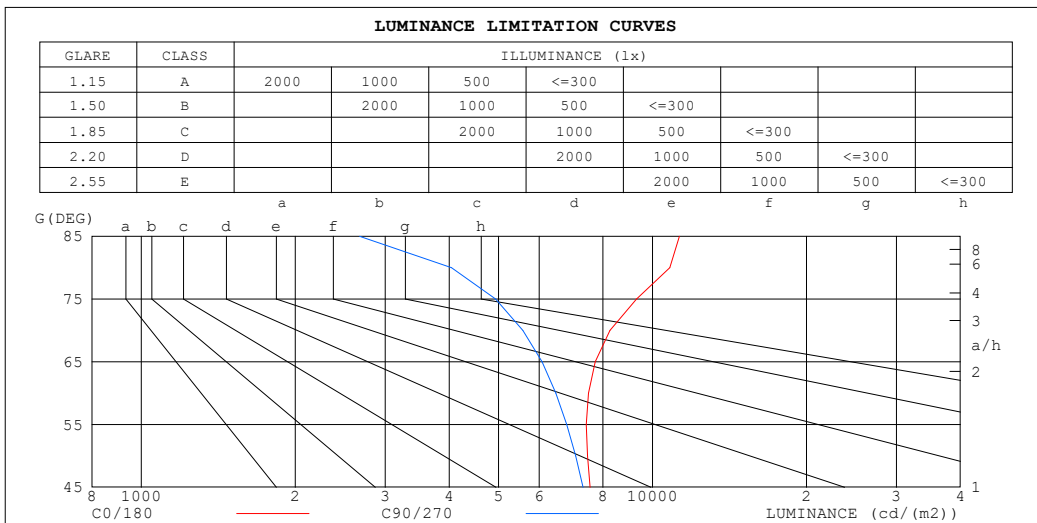
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	11278	2671
80	10816	4044
75	9309	4934
70	8254	5580
65	7729	6078
60	7489	6473
55	7423	6797
50	7458	7076
45	7543	7311

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

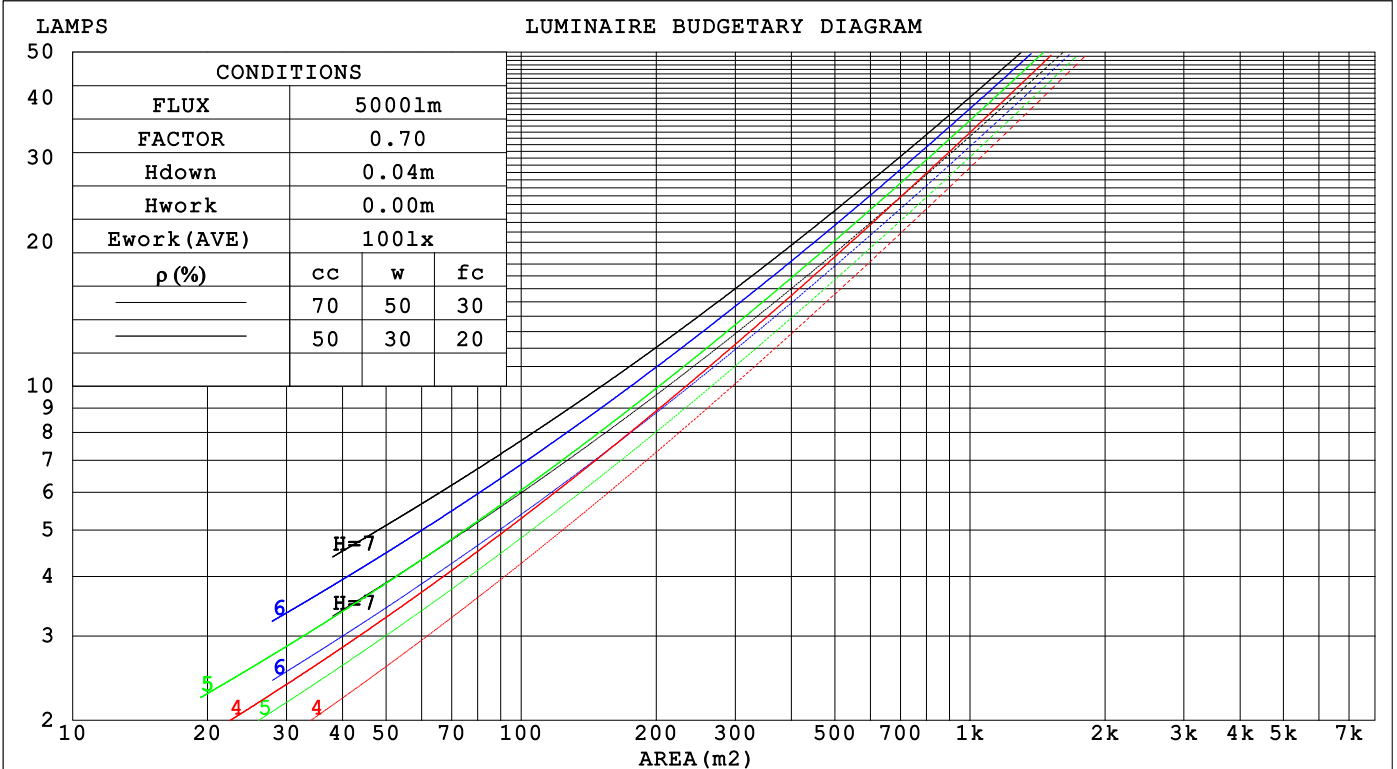
γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	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	1.17	1.17	1.17	1.14	1.14	1.14	1.07	1.07	1.07	1.01	1.01	1.01	.96	.96	.96	.93
1.0	1.01	.97	.92	.98	.94	.90	.93	.89	.86	.88	.85	.82	.83	.81	.79	.76
2.0	.88	.81	.75	.85	.79	.73	.81	.75	.70	.76	.72	.68	.72	.69	.65	.63
3.0	.77	.68	.62	.75	.67	.61	.71	.64	.59	.67	.61	.57	.64	.59	.55	.53
4.0	.68	.59	.52	.66	.58	.51	.63	.56	.50	.60	.53	.48	.57	.51	.47	.45
5.0	.61	.51	.45	.59	.51	.44	.56	.49	.43	.53	.47	.42	.51	.45	.41	.39
6.0	.54	.45	.39	.53	.45	.39	.51	.43	.38	.48	.42	.37	.46	.40	.36	.34
7.0	.49	.41	.34	.48	.40	.34	.46	.39	.33	.44	.37	.33	.42	.36	.32	.30
8.0	.45	.36	.31	.44	.36	.30	.42	.35	.30	.40	.34	.29	.39	.33	.29	.27
9.0	.41	.33	.27	.40	.33	.27	.39	.32	.27	.37	.31	.26	.36	.30	.26	.24
10.0	.38	.30	.25	.37	.30	.25	.36	.29	.24	.35	.28	.24	.33	.28	.23	.22



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz																
Lamp Flux:6312.79x1 lm																
NAME: ASD-WRL2-4A45AC 45W 5000K 277V																
MFR.: ASD Lighting Corp																

ρ _{CC}	80%			70%			50%			30%			10%			0	
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ _{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.331	.188	.060	.322	.184	.058	.305	.175	.056	.289	.167	.053	.274	.159	.051		
2.0	.303	.166	.051	.294	.162	.050	.279	.155	.048	.265	.149	.047	.252	.142	.045		
3.0	.276	.147	.044	.269	.144	.043	.255	.138	.042	.242	.133	.041	.231	.128	.040		
4.0	.253	.131	.039	.246	.129	.038	.234	.124	.037	.222	.119	.036	.212	.115	.035		
5.0	.232	.118	.034	.227	.116	.034	.215	.112	.033	.205	.108	.032	.196	.104	.031		
6.0	.215	.108	.031	.209	.106	.030	.199	.102	.030	.190	.099	.029	.181	.096	.028		
7.0	.199	.099	.028	.195	.097	.028	.185	.094	.027	.177	.091	.026	.169	.088	.026		
8.0	.186	.091	.026	.181	.089	.025	.173	.087	.025	.166	.084	.024	.158	.081	.024		
9.0	.174	.084	.023	.170	.083	.023	.162	.080	.023	.155	.078	.022	.149	.076	.022		
10.0	.163	.078	.022	.160	.077	.022	.153	.075	.021	.146	.073	.021	.140	.071	.020		

ρ _{CC}	80%			70%			50%			30%			10%			0	
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ _{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)										
0.0	.242	.242	.242	.207	.207	.207	.141	.141	.141	.081	.081	.081	.026	.026	.026		
1.0	.233	.208	.184	.200	.178	.159	.137	.123	.110	.079	.071	.064	.025	.023	.021		
2.0	.226	.184	.149	.193	.158	.129	.132	.109	.090	.076	.064	.053	.025	.021	.017		
3.0	.218	.167	.126	.187	.144	.109	.128	.100	.076	.074	.058	.045	.024	.019	.015		
4.0	.210	.154	.110	.180	.133	.096	.124	.092	.067	.072	.054	.040	.023	.018	.013		
5.0	.203	.143	.100	.174	.124	.087	.120	.087	.061	.069	.051	.036	.022	.017	.012		
6.0	.195	.135	.092	.168	.117	.080	.116	.082	.057	.067	.048	.034	.022	.016	.011		
7.0	.189	.128	.086	.162	.111	.075	.112	.078	.053	.065	.046	.032	.021	.015	.010		
8.0	.182	.123	.082	.157	.106	.071	.108	.075	.051	.063	.044	.030	.020	.014	.010		
9.0	.176	.118	.078	.152	.102	.068	.105	.072	.049	.061	.042	.029	.020	.014	.010		
10.0	.170	.113	.076	.147	.099	.066	.102	.069	.047	.059	.041	.028	.019	.013	.009		

C Range: 0 - 360DEG γ Range: 0 - 180DEG
 C Interval: 45.0DEG γ Interval: 5.0DEG
 Test Speed: HIGH Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Temperature:25.3°C Humidity:65.0%
 Operators:DAMIN Test Distance:26.000m [K=1.3190]
 Test Date:2024-03-19 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		

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) $k(RI) \times RCR = 5$									
$k = 0.60$	55	43	36	54	43	36	52	42	35	29
0.80	64	52	45	63	52	45	61	51	44	37
1.00	72	61	53	71	60	53	68	61	52	44
1.25	79	68	61	78	67	60	74	65	59	51
1.50	84	74	66	82	73	66	79	70	64	56
2.00	91	82	75	89	80	74	85	78	72	63
2.50	95	87	80	93	85	79	88	82	77	67
3.00	99	91	85	96	89	84	91	86	81	71
4.00	103	97	91	100	94	90	95	90	86	75
5.00	106	100	95	103	98	93	97	93	90	78
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

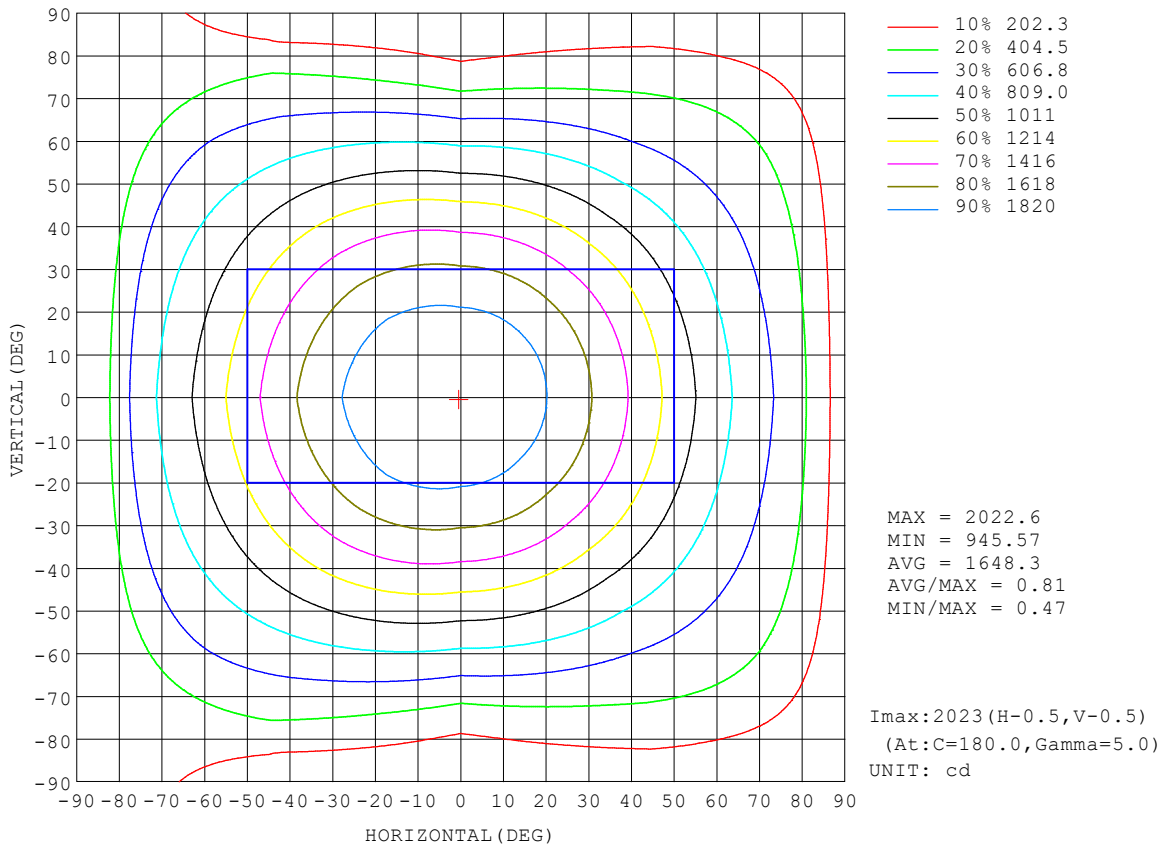
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		



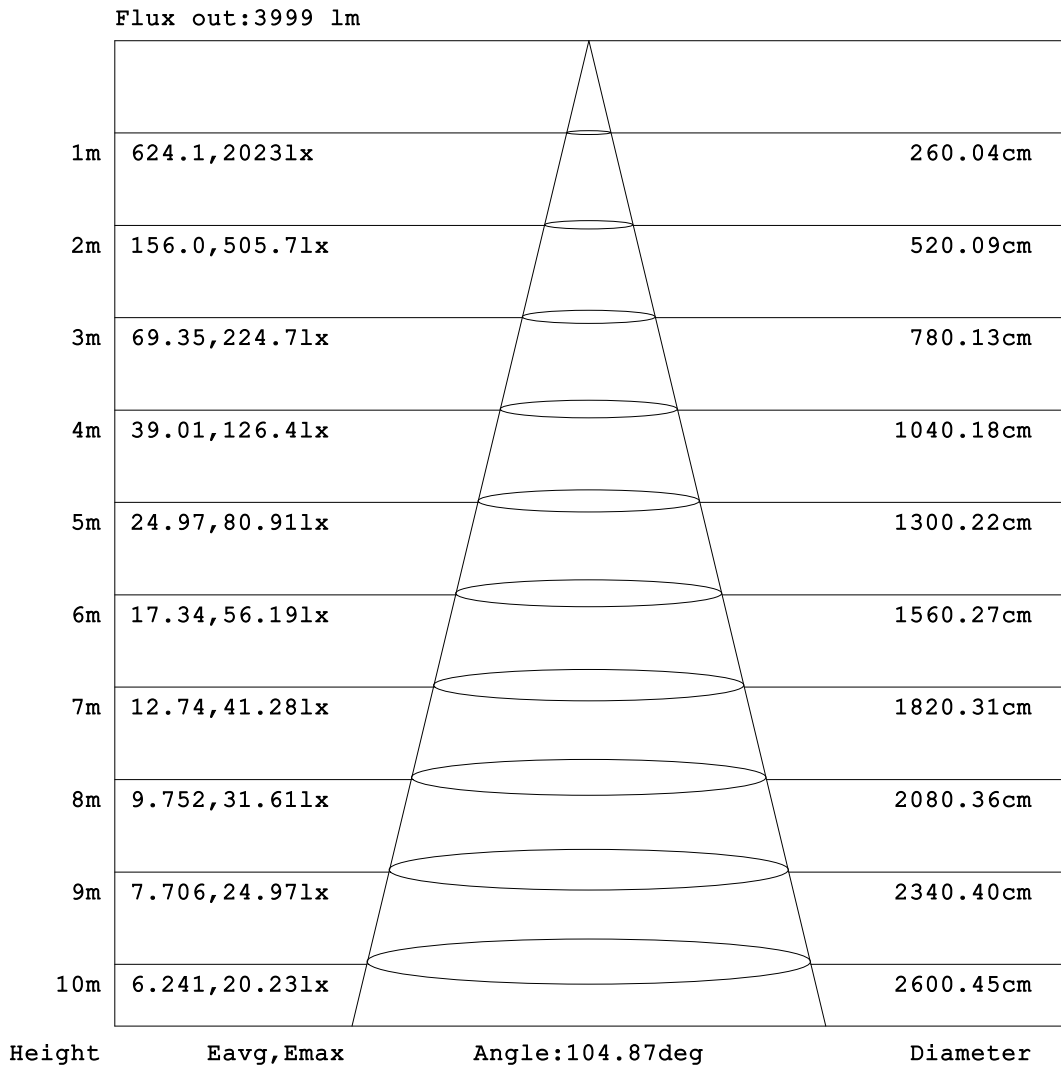
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

AAI Figure

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		



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

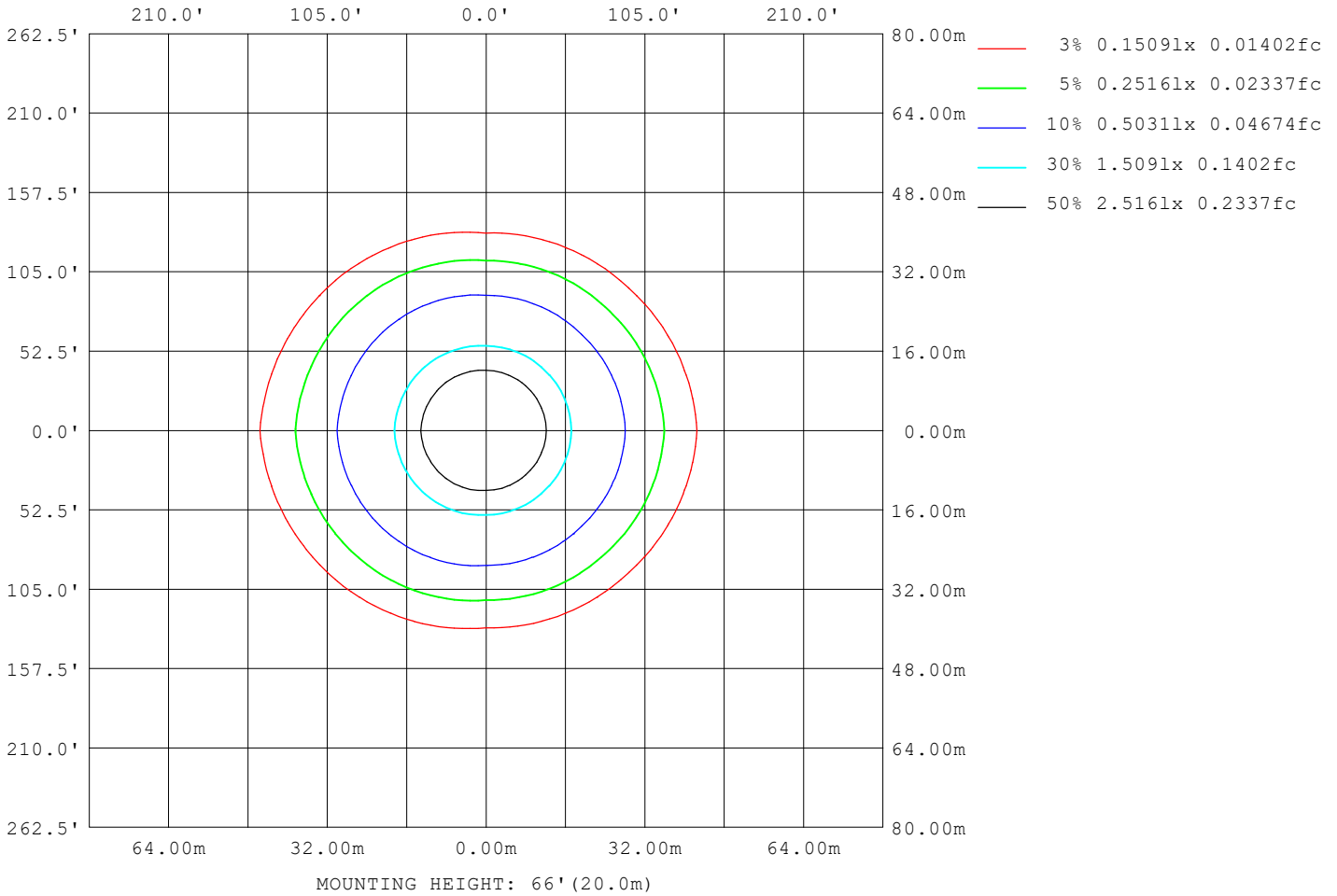
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC	45W	5000K 277V
MFR.: ASD Lighting Corp		



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		

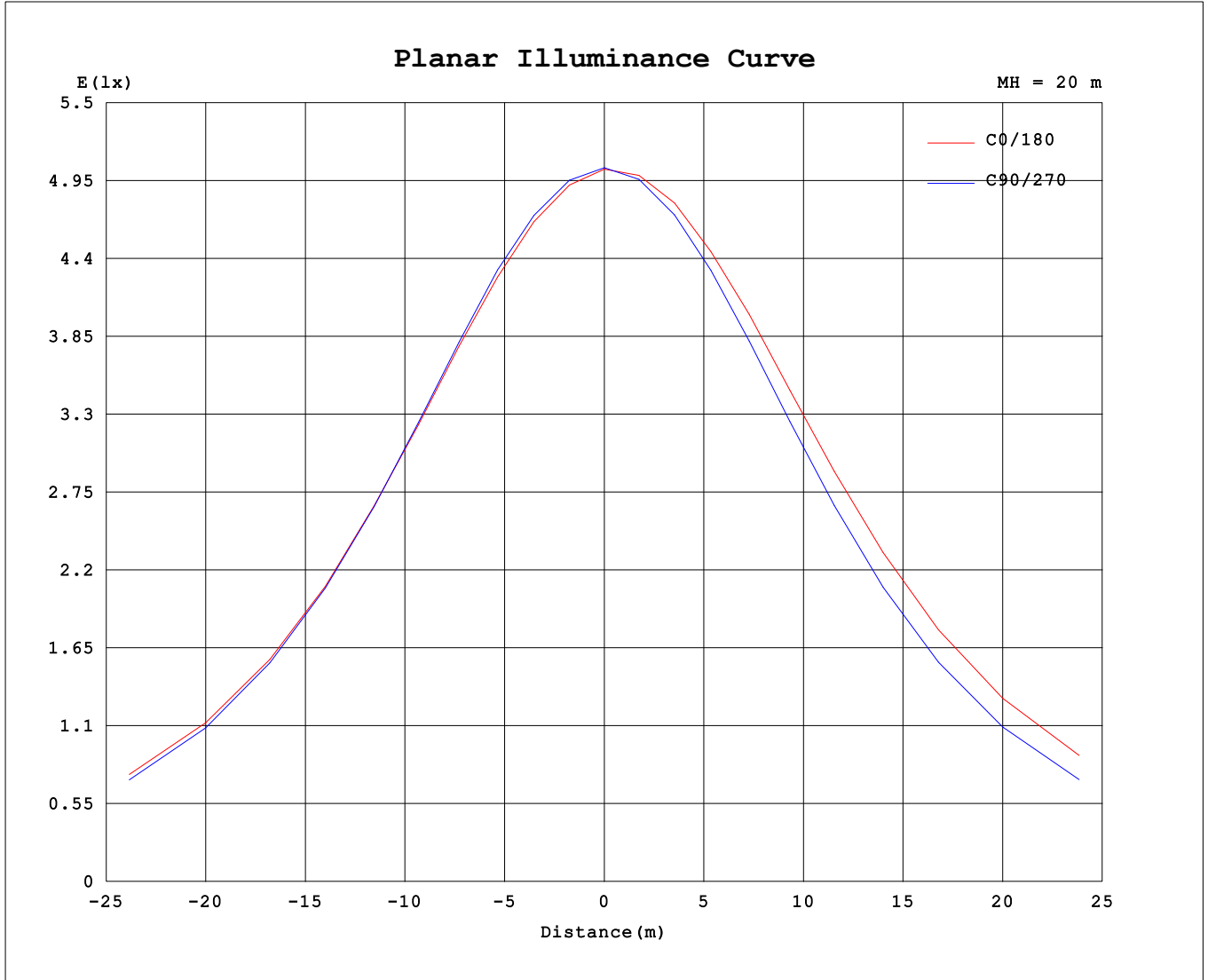
AvgL	cd/m2
L_0~180 (65) av	8661
L_0~180 (75) av	10454
L_0~180 (85) av	12265
L_90~270 (65) av	6088
L_90~270 (75) av	4924
L_90~270 (85) av	2636
L_45 (65) av	7248
L_45 (75) av	7880
L_45 (85) av	9528

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2024-03-19

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity: 65.0%
 Test Distance: 26.000m [K=1.3190]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:276.90V I:0.1691A P:45.620W PF:0.9743 Freq:60.01Hz		
Lamp Flux:6312.79x1 lm		
NAME: ASD-WRL2-4A45AC 45W 5000K 277V		
MFR.: ASD Lighting Corp		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	45	90	135	180	225	270	315											
0	2017	2017	2017	2017	2017	2017	2017	2017											
5	1995	1995	2004	2016	2022	2015	2007	1996											
10	1957	1955	1970	1996	2012	1998	1972	1958											
15	1899	1897	1917	1953	1979	1957	1917	1902											
20	1828	1820	1837	1894	1936	1897	1841	1823											
25	1738	1726	1743	1814	1869	1820	1746	1729											
30	1639	1618	1631	1719	1790	1724	1637	1620											
35	1521	1497	1509	1607	1695	1617	1513	1498											
40	1400	1363	1375	1488	1587	1497	1379	1366											
45	1272	1222	1230	1356	1468	1364	1237	1227											
50	1144	1080	1083	1216	1346	1225	1088	1081											
55	1016	936	928	1072	1217	1081	932	938											
60	893	798	770	925	1087	937	773	798											
65	779	666	611	787	963	797	613	667											
70	673	548	454	654	845	663	456	544											
75	575	439	304	530	713	540	303	433											
80	448	338	167	397	509	403	166	329											
85	234	190	55.4	207	274	208	54.0	185											
90	133	75.9	2.59	150	262	157	1.93	76.6											
95	259	152	2.26	212	367	215	2.58	149											
100	210	112	4.44	156	300	159	5.00	108											
105	162	79.6	7.52	111	237	115	8.09	75.5											
110	125	55.9	9.69	75.2	184	79.0	10.5	52.0											
115	92.9	42.2	12.6	51.0	138	54.9	14.0	38.1											
120	70.1	34.8	15.4	35.3	99.2	39.0	16.3	30.6											
125	55.6	34.0	18.8	29.5	69.7	32.9	18.5	30.2											
130	45.4	31.9	20.6	24.3	48.1	31.1	20.3	29.9											
135	45.4	35.6	24.0	28.0	39.4	27.3	15.5	32.3											
140	37.0	38.5	27.0	31.0	29.9	30.8	14.4	32.1											
145	44.0	40.3	28.3	33.8	36.0	35.5	15.4	25.0											
150	45.5	41.2	29.9	35.7	38.0	37.9	16.1	14.1											
155	45.6	32.6	30.2	27.2	38.9	38.7	16.4	28.6											
160	39.3	30.0	32.8	15.9	33.4	32.7	18.7	31.9											
165	32.4	18.1	36.2	24.0	18.7	18.4	29.6	35.9											
170	17.3	34.8	38.7	36.7	24.2	25.7	36.9	38.1											
175	32.8	38.2	40.2	37.7	30.8	29.8	39.2	39.5											
180	45.5	40.0	40.7	38.5	41.6	41.7	40.4	40.4											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2024-03-19
 γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.464
 Humidity:65.0%
 Test Distance:26.000m [K=1.3190]
 Remarks: