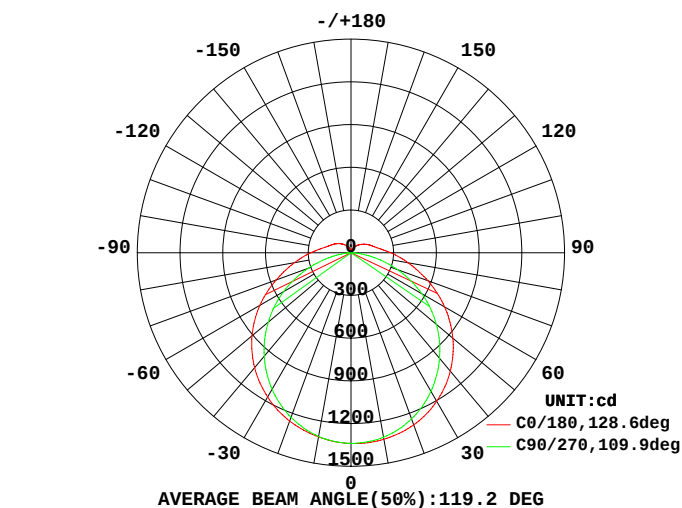


LUMINAIRE PHOTOMETRIC TEST REPORT

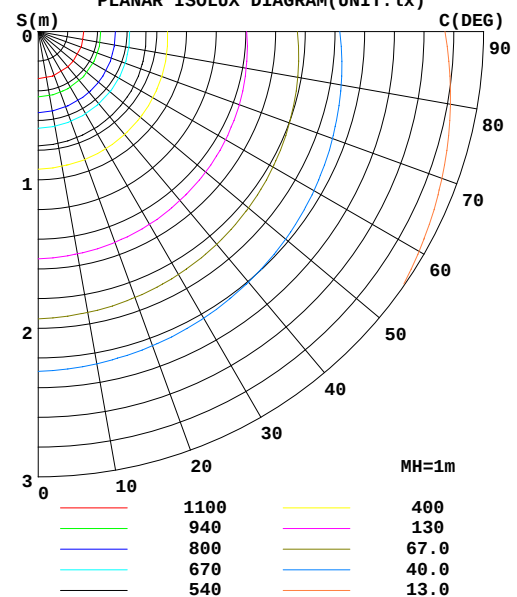
Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.19 lm/W			
MODEL		Imax(cd)	1340	S/MH(C0/180)	1.30
NOMINAL POWER(W)	44	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	4738.4	η UP, DN(C0-180)	4.6, 44.6
NOMINAL FLUX(lm)	4738.37	CIE CLASS	DIRECT	η UP, DN(C180-360)	4.7, 46.1
LAMPS INSIDE	1	η up(%)	9.3	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	120.6	η down(%)	90.7	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 26DEG
 Operators:
 Test Date: 2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity: 70%
 Test Distance: 9.500m [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	1313	1312	1310	1317	1330	1324	1315	1317	0- 10	126.8	126.8	2.68, 2.68
20	1258	1244	1230	1253	1287	1266	1242	1255	10- 20	364.5	491.3	10.4, 10.4
30	1170	1141	1108	1148	1204	1169	1123	1158	20- 30	557.1	1048	22.1, 22.1
40	1053	1008	948.3	1005	1085	1033	967.8	1027	30- 40	681.0	1729	36.5, 36.5
50	907.3	847.4	758.8	834.4	933.4	866.0	783.1	869.4	40- 50	722.3	2452	51.7, 51.7
60	739.2	664.2	547.1	642.6	758.6	677.7	574.6	690.1	50- 60	677.8	3129	66, 66
70	559.8	466.8	320.0	439.4	574.3	478.1	348.2	496.4	60- 70	555.6	3685	77.8, 77.8
80	403.2	292.5	102.8	267.5	407.9	299.1	129.1	312.5	70- 80	385.7	4071	85.9, 85.9
90	281.6	176.4	0.5254	154.3	278.9	173.8	1.248	184.7	80- 90	227.9	4299	90.7, 90.7
100	200.1	117.8	1.223	105.7	193.1	113.9	1.188	118.6	90-100	139.8	4438	93.7, 93.7
110	155.2	88.73	2.230	84.19	151.1	90.89	1.895	94.61	100-110	99.62	4538	95.8, 95.8
120	126.3	73.06	3.317	66.44	120.2	72.24	3.109	73.39	110-120	75.29	4613	97.4, 97.4
130	99.82	50.88	4.396	51.41	92.50	56.43	4.298	49.77	120-130	52.00	4666	98.5, 98.5
140	75.89	35.42	5.439	38.48	68.28	42.67	5.312	37.00	130-140	34.79	4701	99.2, 99.2
150	54.59	23.71	7.079	27.05	47.22	30.63	6.745	25.33	140-150	20.81	4722	99.6, 99.6
160	35.52	17.97	8.475	17.20	29.30	20.02	8.122	19.26	150-160	10.90	4733	99.9, 99.9
170	20.17	13.20	9.481	9.836	14.67	11.54	9.229	14.34	160-170	4.643	4737	100, 100
180	6.462	9.036	9.989	9.640	6.435	9.017	9.998	9.667	170-180	1.062	4738	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT: lm		

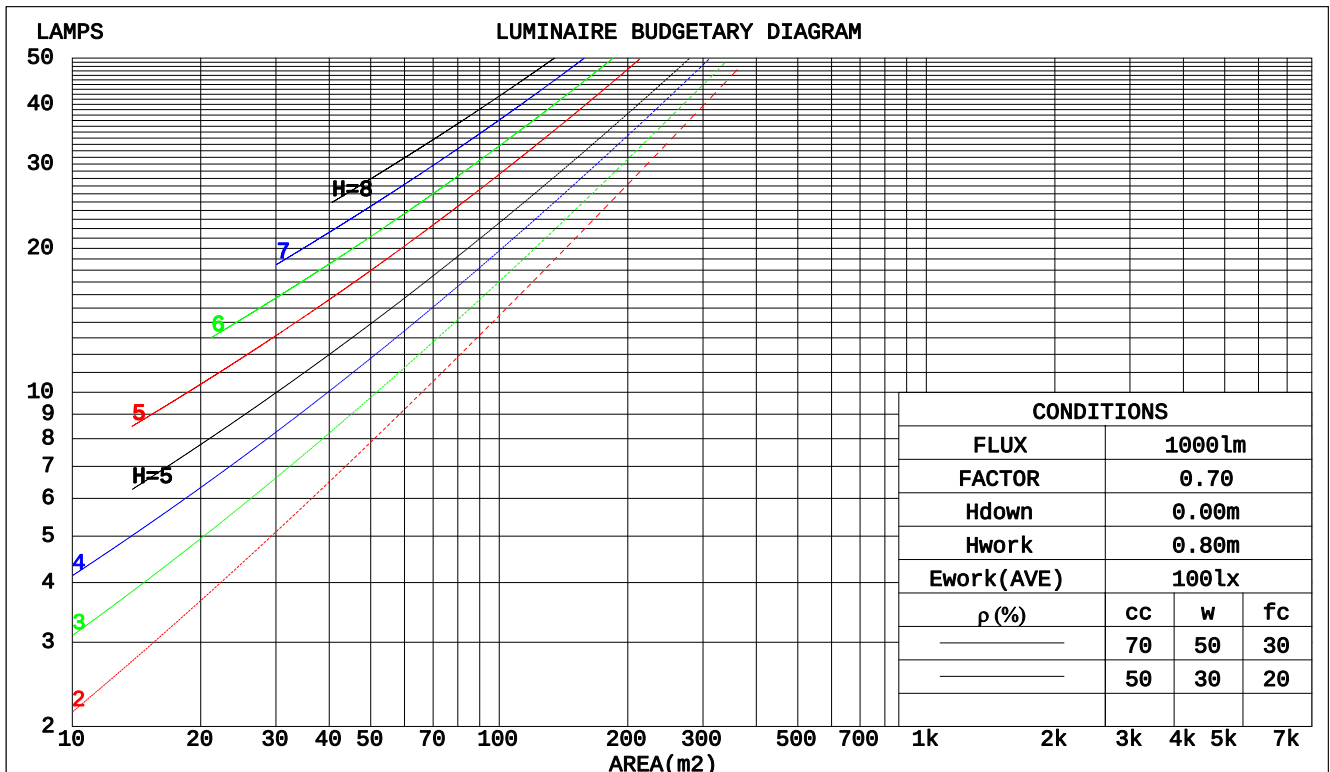
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 26DEG
 Operators:
 Test Date: 2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity: 70%
 Test Distance: 9.500m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

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						Coefficients of Utilization(CU)									
0.0	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	.99	.99	.99	.94	.94	.94	.91
1.0	.90	.95	.90	.96	.92	.88	.90	.87	.84	.85	.82	.79	.80	.78	.75	.73
2.0	.86	.79	.72	.83	.77	.71	.78	.73	.68	.73	.69	.65	.69	.65	.62	.59
3.0	.75	.66	.60	.73	.65	.58	.68	.62	.56	.64	.59	.54	.61	.56	.52	.49
4.0	.66	.57	.50	.64	.56	.49	.61	.53	.48	.57	.51	.46	.54	.49	.44	.42
5.0	.59	.50	.43	.57	.49	.42	.54	.47	.41	.51	.45	.40	.48	.43	.38	.36
6.0	.53	.44	.37	.51	.43	.37	.49	.41	.36	.46	.40	.35	.44	.38	.33	.31
7.0	.48	.39	.33	.47	.38	.32	.44	.37	.31	.42	.35	.30	.40	.34	.30	.27
8.0	.44	.35	.29	.42	.34	.29	.40	.33	.28	.38	.32	.27	.37	.31	.26	.24
9.0	.40	.32	.26	.39	.31	.26	.37	.30	.25	.35	.29	.24	.34	.28	.24	.22
10.0	.37	.29	.23	.36	.28	.23	.34	.27	.23	.33	.26	.22	.31	.26	.22	.20



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 26DEG
 Operators:
 Test Date: 2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
 Humidity: 70%
 Test Distance: 9.500m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm									
NAME: LED Vapor tight					TYPE:			WEIGHT:	
DIM.: 4FT					SPEC.:			SERIAL No.:	
MFR.:					SUR.:			PROTECTION ANGLE:	

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	.348	.198	.063	.338	.193	.061	.319	.183	.059	.302	.174	.056	.286	.166	.054		
2.0	.313	.171	.053	.304	.167	.052	.287	.160	.050	.271	.152	.048	.257	.145	.046		
3.0	.283	.151	.045	.275	.147	.044	.260	.141	.043	.246	.135	.041	.233	.129	.040		
4.0	.258	.134	.039	.251	.131	.039	.237	.126	.038	.225	.121	.036	.213	.116	.035		
5.0	.236	.120	.035	.230	.118	.034	.218	.113	.033	.206	.109	.032	.196	.105	.031		
6.0	.218	.109	.031	.212	.107	.031	.201	.103	.030	.191	.099	.029	.181	.095	.028		
7.0	.202	.100	.028	.196	.098	.028	.186	.094	.027	.177	.091	.026	.168	.087	.026		
8.0	.188	.092	.026	.183	.090	.025	.174	.087	.025	.165	.084	.024	.157	.081	.024		
9.0	.175	.085	.024	.171	.083	.023	.163	.080	.023	.155	.078	.022	.147	.075	.022		
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.146	.072	.021	.139	.070	.020		

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	.261	.261	.261	.223	.223	.223	.152	.152	.152	.088	.088	.088	.028	.028	.028	
1.0	.254	.227	.203	.218	.195	.174	.149	.134	.121	.086	.078	.070	.027	.025	.023	
2.0	.247	.204	.167	.211	.175	.145	.145	.121	.101	.084	.071	.059	.027	.023	.019	
3.0	.239	.187	.145	.205	.161	.125	.141	.112	.088	.081	.065	.052	.026	.021	.017	
4.0	.231	.174	.130	.199	.150	.113	.137	.105	.079	.079	.061	.047	.025	.020	.015	
5.0	.224	.164	.119	.192	.142	.104	.132	.099	.073	.077	.058	.043	.025	.019	.014	
6.0	.217	.155	.111	.186	.135	.097	.128	.094	.069	.075	.055	.041	.024	.018	.013	
7.0	.210	.149	.106	.180	.129	.092	.125	.090	.065	.072	.053	.039	.023	.017	.013	
8.0	.203	.143	.102	.175	.124	.089	.121	.087	.063	.070	.051	.037	.023	.017	.012	
9.0	.197	.138	.098	.170	.120	.086	.118	.084	.061	.068	.050	.036	.022	.016	.012	
10.0	.191	.134	.096	.165	.116	.084	.114	.082	.059	.067	.048	.035	.022	.016	.012	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm											
NAME: LED Vapor tight					TYPE:			WEIGHT:			
DIM.: 4FT					SPEC.:			SERIAL No.:			
MFR.:					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	2H	28.3	29.7	28.7	30.1	30.5	27.3	28.7	27.6	29.1	29.5
	3H	30.3	31.7	30.8	32.1	32.5	28.7	30.0	29.1	30.4	30.8
	4H	31.4	32.7	31.9	33.1	33.5	29.2	30.4	29.6	30.8	31.3
	6H	32.6	33.8	33.0	34.2	34.7	29.4	30.6	29.9	31.1	31.5
	8H	33.2	34.4	33.7	34.8	35.3	29.5	30.6	30.0	31.1	31.6
	12H	34.0	35.1	34.4	35.5	36.0	29.5	30.6	30.0	31.0	31.5
4H	2H	28.8	30.1	29.3	30.5	31.0	28.1	29.3	28.5	29.8	30.2
	3H	31.1	32.2	31.6	32.7	33.2	29.7	30.8	30.2	31.3	31.8
	4H	32.3	33.3	32.8	33.8	34.4	30.4	31.4	30.9	31.9	32.4
	6H	33.7	34.6	34.2	35.1	35.7	30.8	31.7	31.4	32.2	32.8
	8H	34.4	35.3	35.0	35.8	36.4	30.9	31.8	31.5	32.3	32.9
	12H	35.3	36.1	35.9	36.6	37.2	31.0	31.8	31.6	32.3	32.9
8H	4H	32.6	33.5	33.2	34.0	34.6	31.0	31.8	31.5	32.3	32.9
	6H	34.2	34.9	34.8	35.5	36.1	31.7	32.4	32.3	33.0	33.6
	8H	35.1	35.8	35.7	36.4	37.0	32.0	32.6	32.6	33.2	33.8
	12H	36.3	36.8	36.9	37.4	38.1	32.2	32.7	32.8	33.3	34.0
12H	4H	32.6	33.4	33.2	34.0	34.6	31.1	31.9	31.7	32.4	33.0
	6H	34.3	34.9	34.9	35.5	36.2	32.0	32.6	32.6	33.2	33.9
	8H	35.3	35.9	35.9	36.5	37.2	32.4	33.0	33.0	33.6	34.2
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					

CIE Pub.117 Corrected 4738 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.4)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

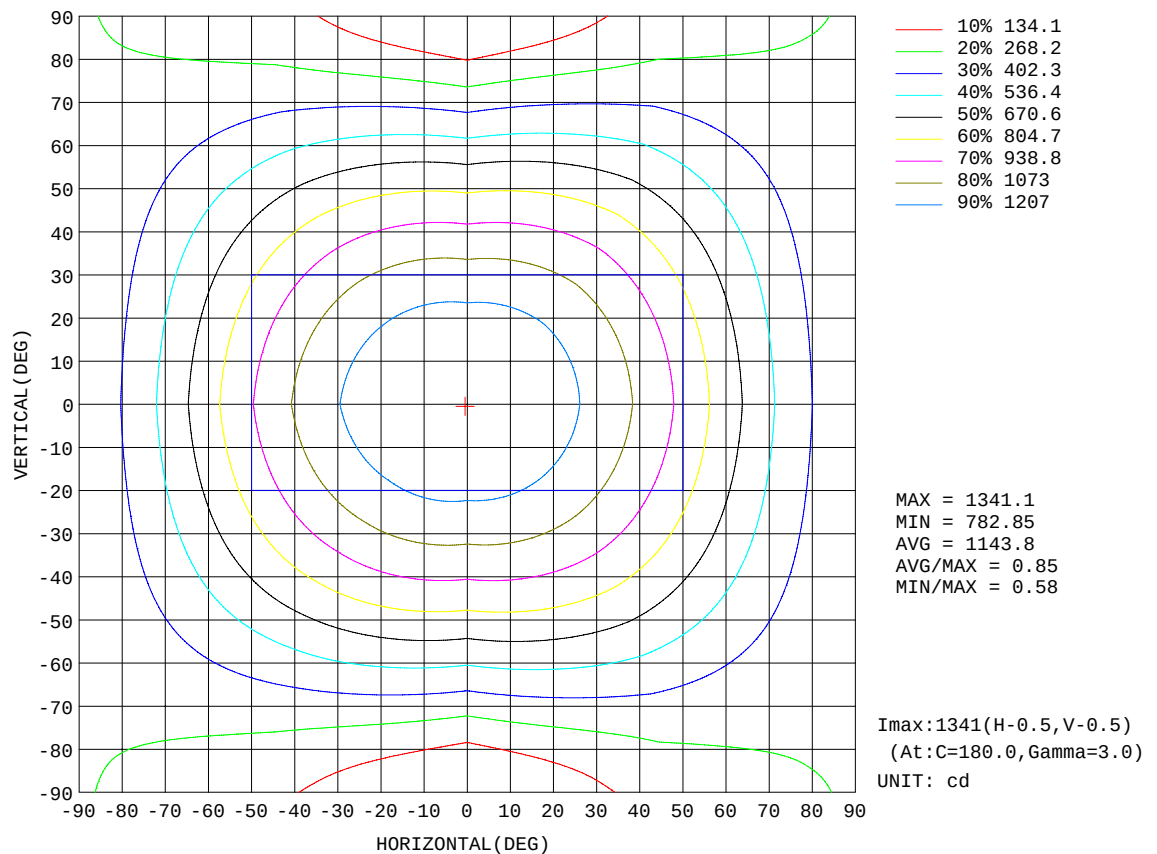
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	53	41	33	52	40	33	50	39	33	26
0.80	62	50	42	61	49	42	59	48	41	34
1.00	70	58	50	69	57	50	66	58	49	41
1.25	77	66	58	75	65	57	72	63	56	47
1.50	82	71	63	80	70	63	76	67	61	52
2.00	89	80	72	87	78	71	82	75	69	59
2.50	94	85	77	91	83	76	86	79	73	63
3.00	97	89	82	94	87	81	89	83	78	67
4.00	101	95	89	98	92	87	93	88	83	72
5.00	104	98	93	101	96	91	95	91	87	75
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:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

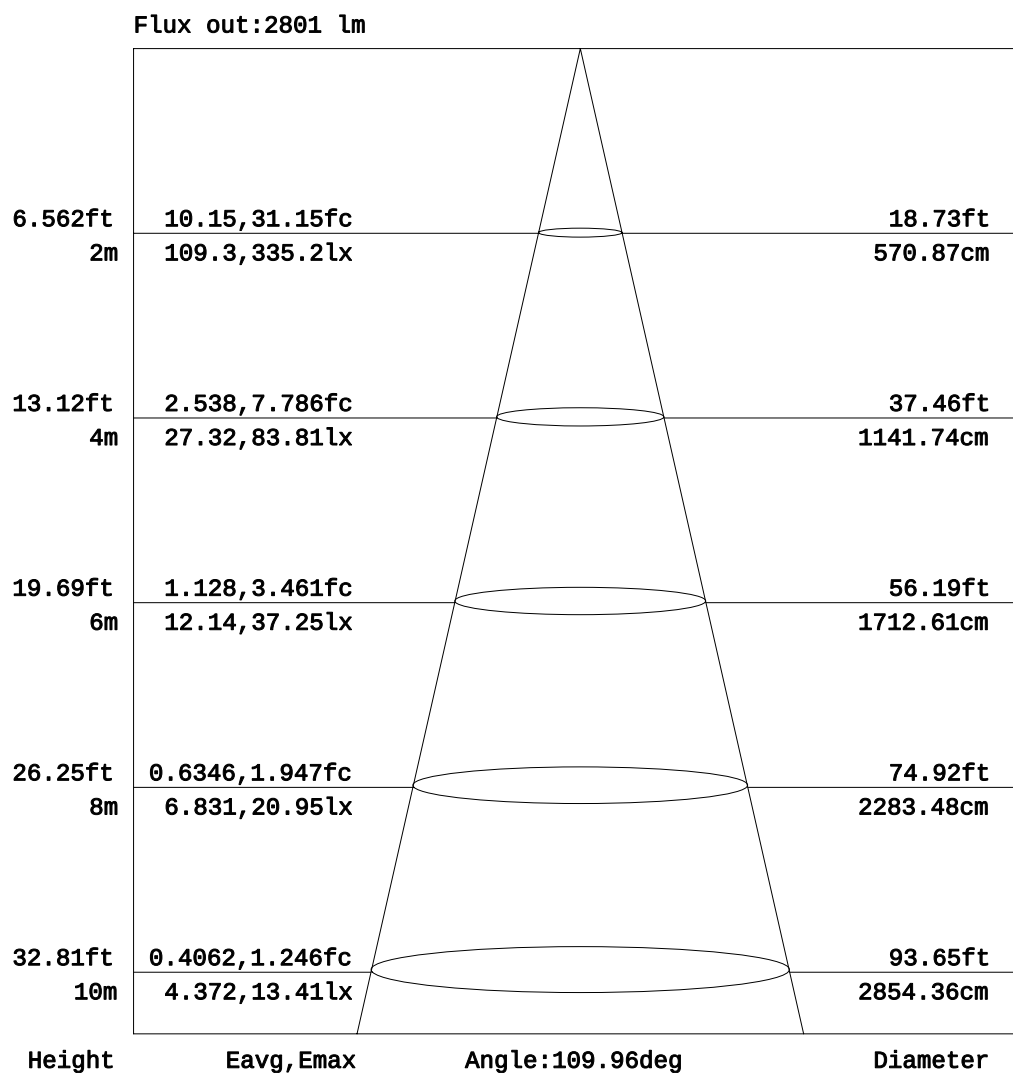


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



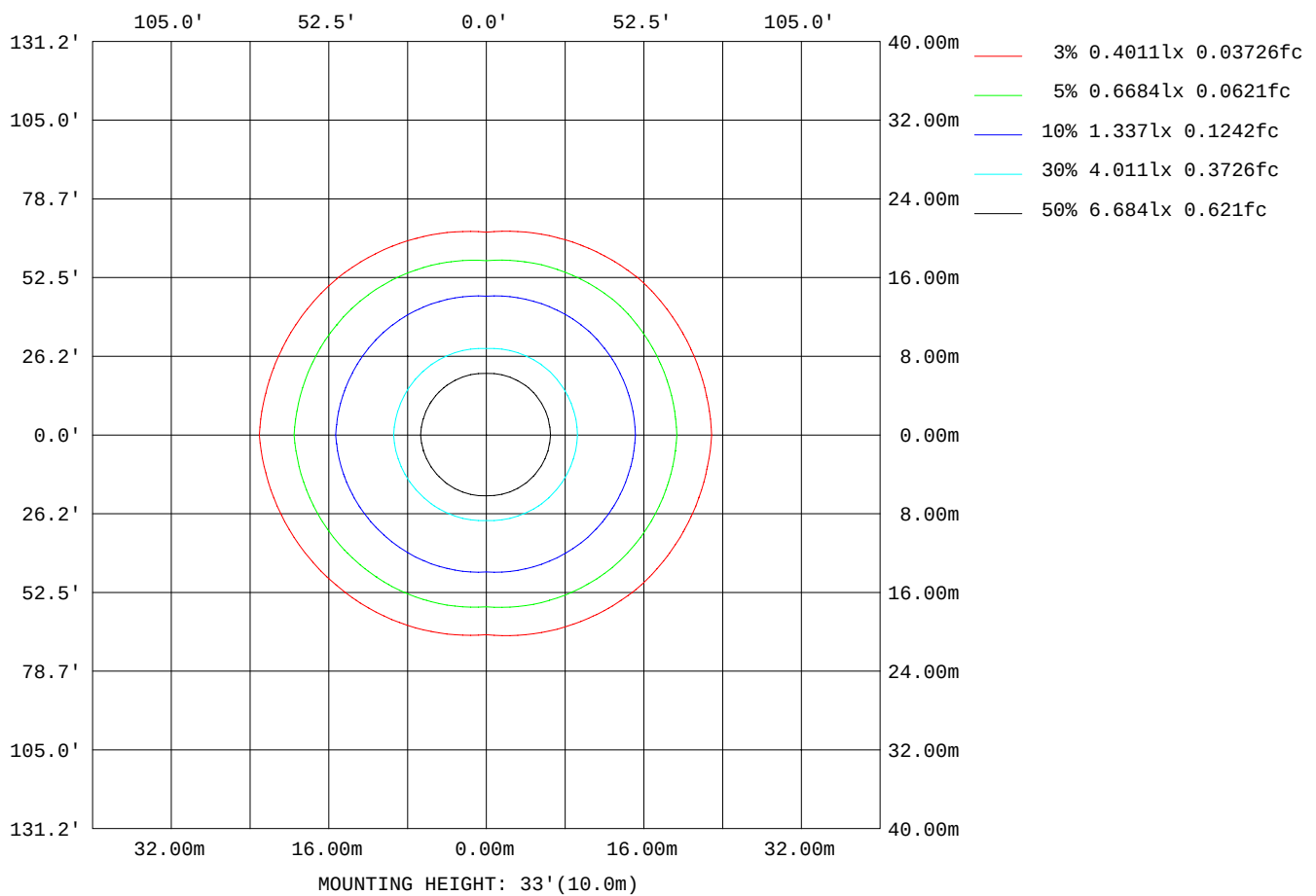
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

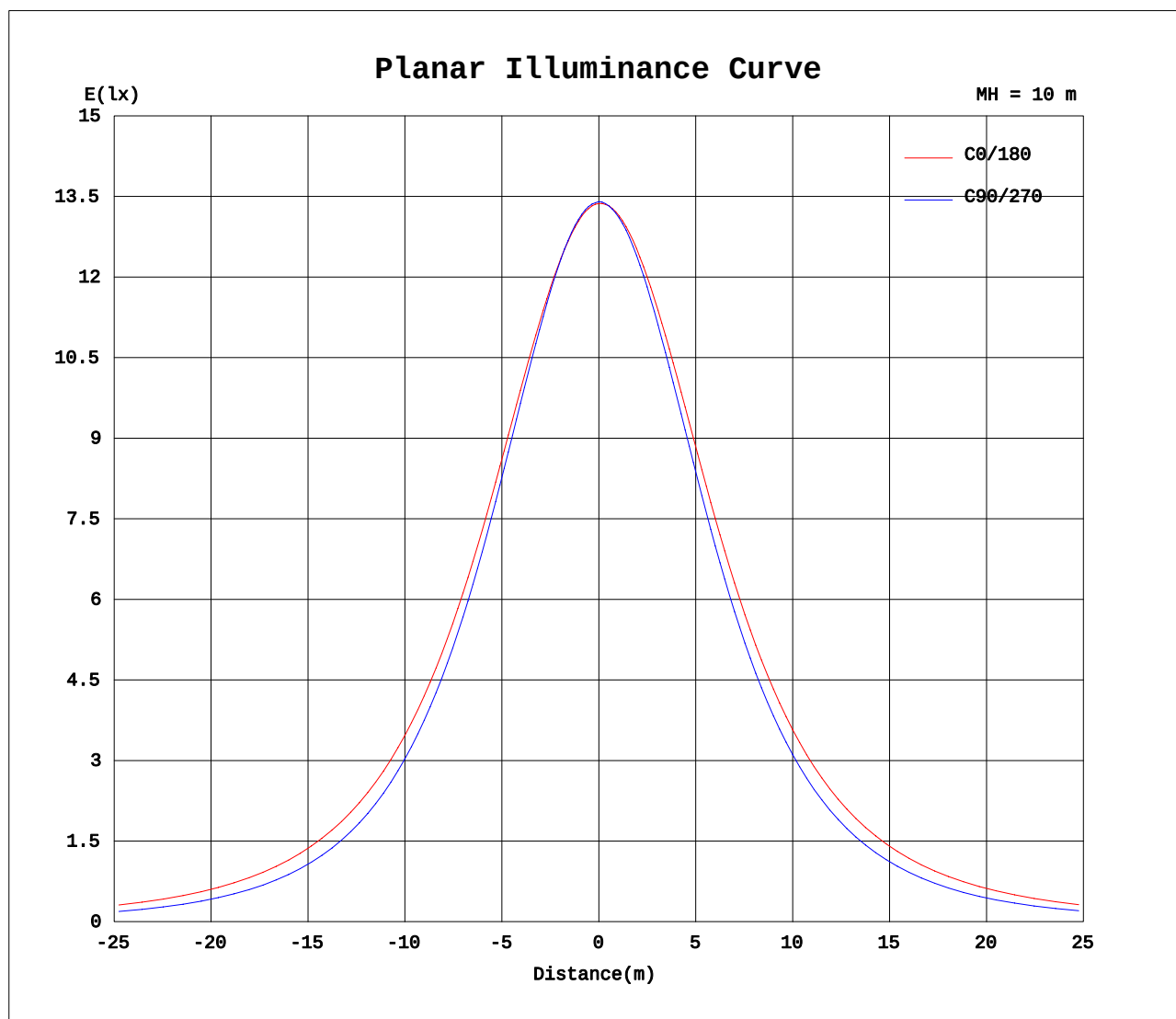
Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm		
NAME: LED Vapor tight	TYPE:	WEIGHT:
DIM.: 4FT	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 26DEG
Operators:
Test Date: 2020-08-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity: 70%
Test Distance: 9.500m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 26DEG
Operators:
Test Date: 2020-08-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity: 70%
Test Distance: 9.500m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.6V I:0.4370A P:44.62W PF:0.8470 Lamp Flux:4738.37x1 lm									
NAME: LED Vapor tight					TYPE:			WEIGHT:	
DIM.: 4FT					SPEC.:			SERIAL No.:	
MFR.:					SUR.:			PROTECTION ANGLE:	

Table--1

UNIT: cd

C(DEC) γ (DEC)	0	45	90	135	180	225	270	315										
0	1339	1339	1339	1339	1339	1339	1339	1339										
5	1331	1331	1331	1333	1339	1337	1333	1335										
10	1313	1312	1310	1317	1330	1324	1315	1317										
15	1289	1283	1276	1290	1313	1300	1284	1292										
20	1258	1244	1230	1253	1287	1266	1242	1255										
25	1219	1197	1174	1205	1251	1221	1188	1210										
30	1170	1141	1108	1148	1204	1169	1123	1158										
35	1116	1078	1032	1081	1149	1105	1049	1096										
40	1053	1008	948	1005	1085	1033	968	1027										
45	983	931	857	924	1013	953	879	952										
50	907	847	759	834	933	866	783	869										
55	825	758	656	741	849	774	681	782										
60	739	664	547	643	759	678	575	690										
65	649	568	435	541	666	578	461	594										
70	560	467	320	439	574	478	348	496										
75	477	374	206	347	486	383	236	400										
80	403	293	103	267	408	299	129	313										
85	339	227	24.5	203	339	228	42.0	240										
90	282	176	0.53	154	279	174	1.25	185										
95	236	141	0.78	123	230	136	0.90	145										
100	200	118	1.22	106	193	114	1.19	119										
105	174	105	1.67	94.4	168	101	1.51	104										
110	155	88.7	2.23	84.2	151	90.9	1.90	94.6										
115	141	83.8	2.79	74.9	135	81.2	2.50	86.2										
120	126	73.1	3.32	66.4	120	72.2	3.11	73.4										
125	113	60.9	3.88	58.6	106	64.0	3.73	57.6										
130	99.8	50.9	4.40	51.4	92.5	56.4	4.30	49.8										
135	87.5	42.6	4.94	44.7	80.0	49.3	4.82	43.7										
140	75.9	35.4	5.44	38.5	68.3	42.7	5.31	37.0										
145	64.9	28.5	6.31	32.6	57.3	36.5	6.05	30.1										
150	54.6	23.7	7.08	27.1	47.2	30.6	6.74	25.3										
155	42.4	20.0	7.81	21.9	37.9	25.1	7.47	21.6										
160	35.5	18.0	8.47	17.2	29.3	20.0	8.12	19.3										
165	27.4	15.7	9.03	13.1	21.5	15.3	8.70	16.9										
170	20.2	13.2	9.48	9.84	14.7	11.5	9.23	14.3										
175	13.5	10.7	9.83	8.74	8.97	9.04	9.67	11.8										
180	6.46	9.04	9.99	9.64	6.43	9.02	10.00	9.67										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:
Test Date:2020-08-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.276
Humidity:70%
Test Distance:9.500m [K=1.0000]
Remarks: