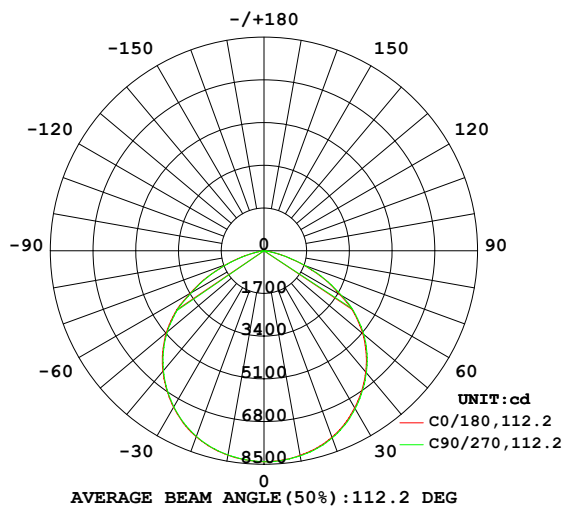


LUMINAIRE PHOTOMETRIC TEST REPORT

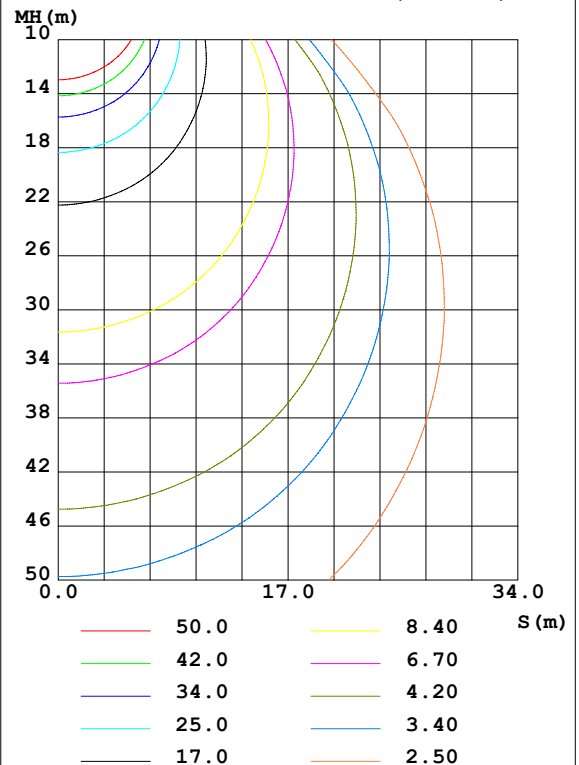
Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.44 lm/W			
MODEL	ERS-UFO-150D-A1	I _{max} (cd)	8405	S/MH (C0/180)	1.27
NOMINAL POWER (W)	150	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	240	TOTAL FLUX (lm)	22643	η UP, DN (C0-180)	0.1, 50.6
NOMINAL FLUX (lm)	22643.2	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.3
LAMPS INSIDE	1	η up (%)	0.1	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	240	η down (%)	99.9	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)

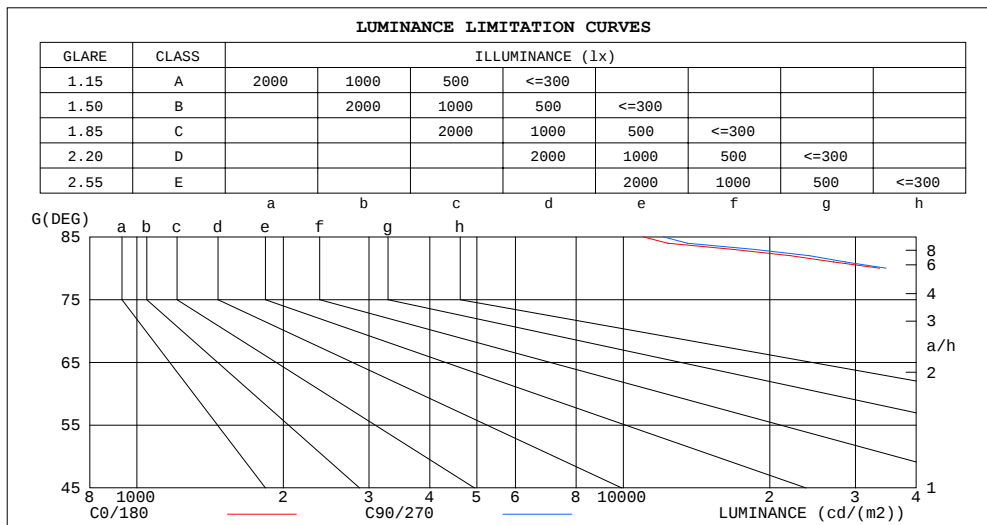


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.8DEG
 Operators: East
 Test Date: 2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.351
 Humidity: 35%
 Test Distance: 2.490m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10982	12078
80	33644	34689
75	69746	72422
70	101879	103955
65	126525	128504
60	142477	144942
55	156729	158123
50	162897	164383
45	165905	167012

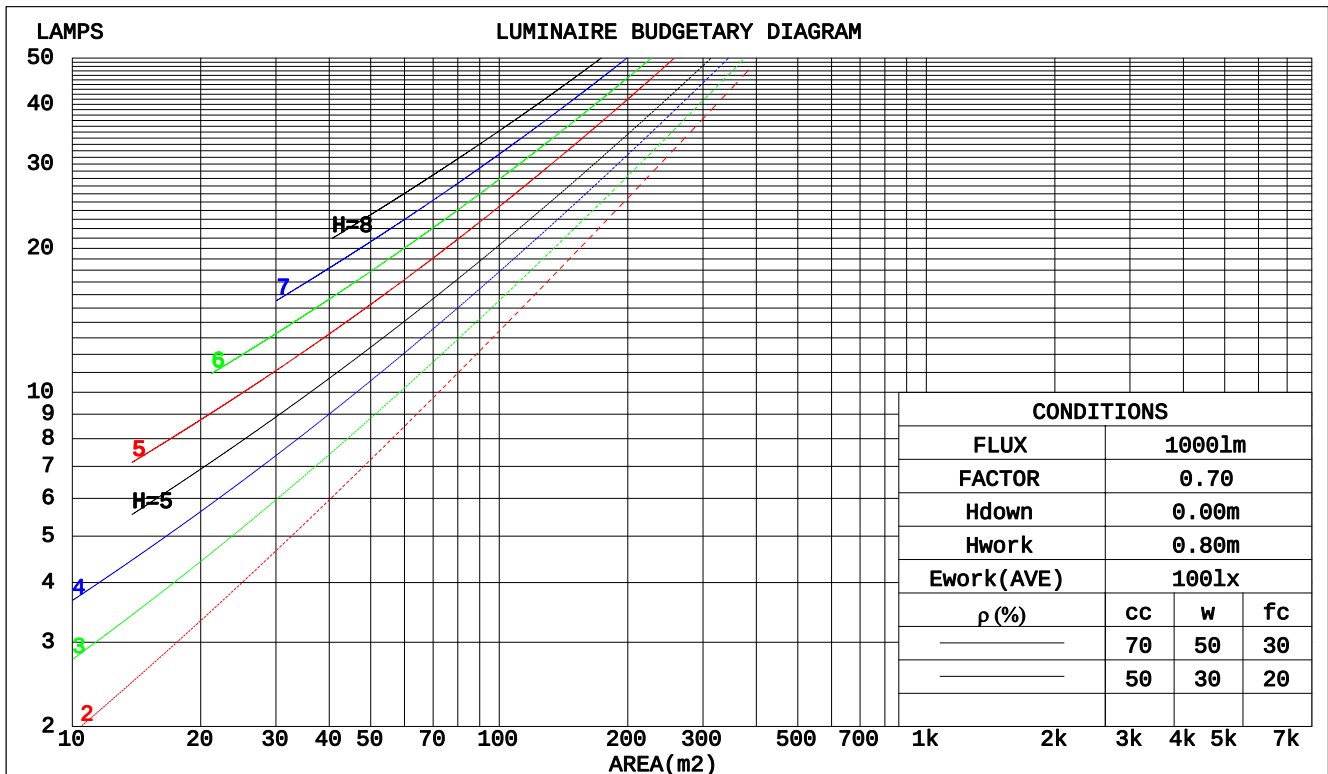
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.8DEG
Operators:East
Test Date:2020-07-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.351
Humidity:35%
Test Distance:2.490m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A

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	1.19	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	.53	.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	.32	.28	.38	.32	.28	.38	.32	.27	.26



WEC AND CCEC

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm					
NAME: LED Highbay			TYPE:N/A		WEIGHT:N/A
SPEC.:N/A			DIM.: N/A		SERIAL No.:N/A
MFR.: ERS			SUR.:N/A		Shielding Angle:N/A

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	.277	.157	.050	.270	.154	.049	.256	.147	.047	.244	.141	.045	.233	.135	.044										
2.0	.269	.148	.045	.263	.145	.045	.252	.140	.043	.241	.135	.042	.231	.131	.041										
3.0	.254	.135	.040	.249	.133	.040	.238	.129	.039	.229	.125	.038	.220	.122	.038										
4.0	.238	.123	.036	.233	.122	.036	.224	.119	.035	.215	.116	.035	.207	.113	.034										
5.0	.222	.113	.033	.217	.112	.033	.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	.027	.172	.089	.026										
8.0	.182	.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	.077	.021	.154	.075	.021	.149	.074	.021	.145	.073	.021										

ρ_{CC}	80%			70%	
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UGR(Unified Glare Rating) Table

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm											
NAME: LED Highbay					TYPE:N/A			WEIGHT:N/A			
SPEC.:N/A					DIM.: N/A			SERIAL No.:N/A			
MFR.: ERS					SUR.:N/A			Shielding Angle:N/A			
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		30.5	32.0	30.8	32.2	32.4	30.6	32.0	30.8	32.2	32.4
	3H	31.5	32.9	31.8	33.1	33.4	31.6	33.0	31.9	33.2	33.4
	4H	31.8	33.0	32.1	33.3	33.5	31.8	33.1	32.1	33.4	33.6
	6H	31.8	33.0	32.1	33.2	33.5	31.9	33.1	32.2	33.3	33.6
	8H	31.7	32.9	32.1	33.2	33.5	31.8	33.0	32.2	33.3	33.5
	12H	31.7	32.8	32.0	33.1	33.4	31.8	32.9	32.1	33.2	33.5
4H	2H	31.0	32.3	31.3	32.6	32.8	31.1	32.3	31.4	32.6	32.8
	3H	32.2	33.3	32.5	33.6	33.9	32.2	33.3	32.6	33.6	33.9
	4H	32.5	33.5	32.8	33.8	34.1	32.5	33.5	32.9	33.8	34.2
	6H	32.5	33.4	32.9	33.7	34.1	32.6	33.5	33.0	33.8	34.2
	8H	32.5	33.3	32.9	33.7	34.1	32.6	33.4	33.0	33.7	34.1
	12H	32.4	33.2	32.9	33.6	34.0	32.5	33.3	32.9	33.7	34.1
8H	4H	32.5	33.3	32.9	33.7	34.1	32.6	33.4	33.0	33.8	34.1
	6H	32.6	33.3	33.1	33.7	34.1	32.7	33.4	33.1	33.8	34.2
	8H	32.6	33.2	33.1	33.6	34.1	32.7	33.3	33.1	33.7	34.1
	12H	32.6	33.1	33.0	33.5	34.0	32.6	33.1	33.1		

UTILIZATION FACTORS TABLE

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A

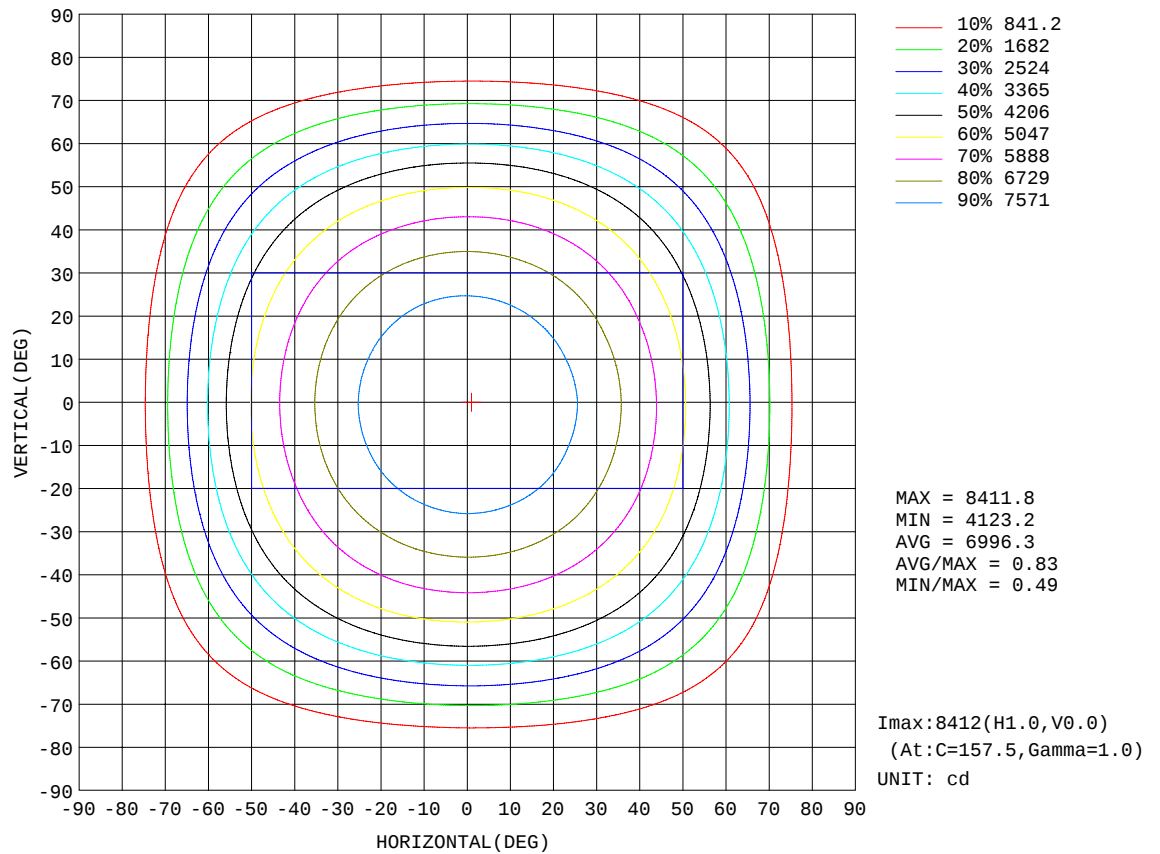
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	48	41	58	47	41	57	47	40	34
0.80	69	58	51	68	58	51	67	57	50	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: 22.5DEG
 Test Speed: HIGH
 Temperature:24.8DEG
 Operators:East
 Test Date:2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.351
 Humidity:35%
 Test Distance:2.490m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A

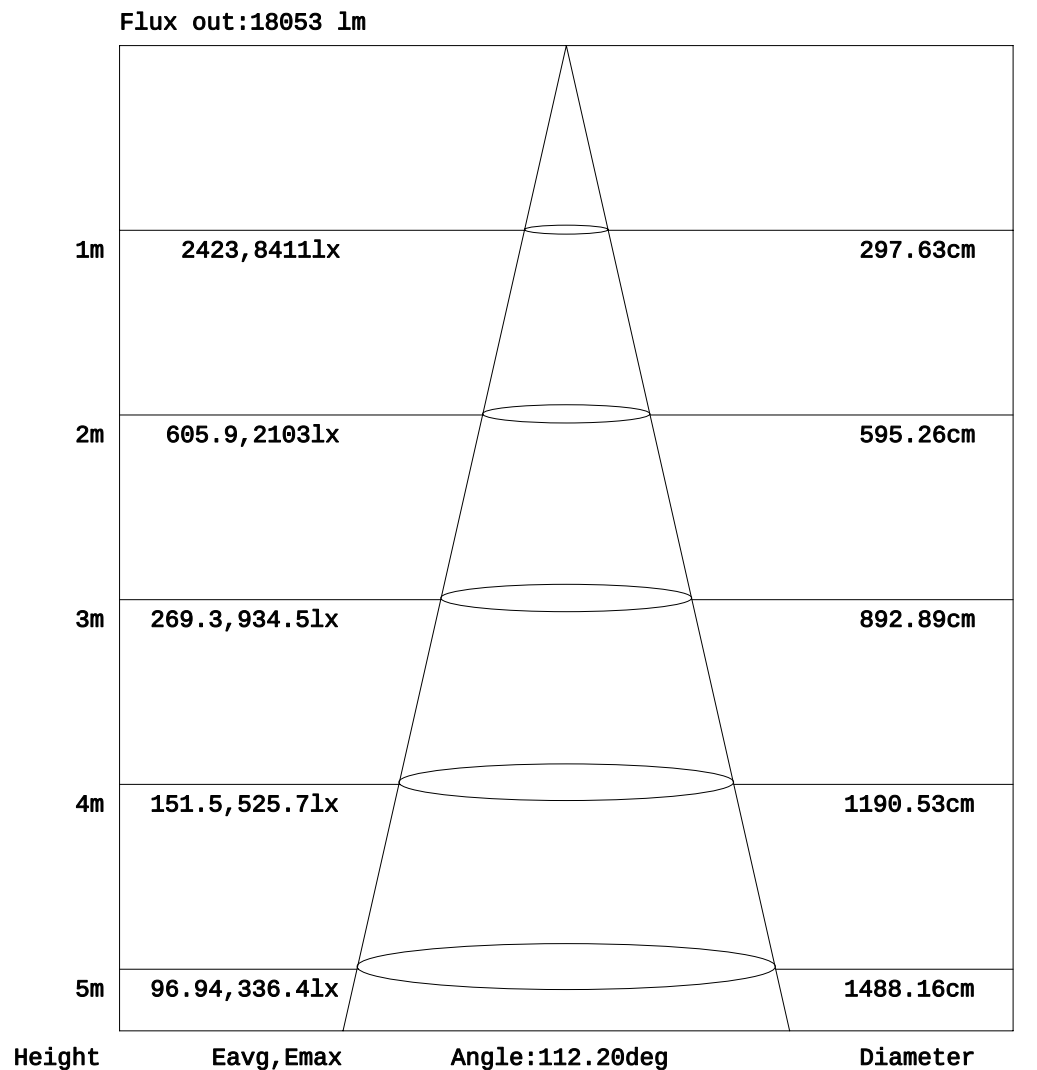


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.8DEG
Operators:East
Test Date:2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.351
Humidity:35%
Test Distance:2.490m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A



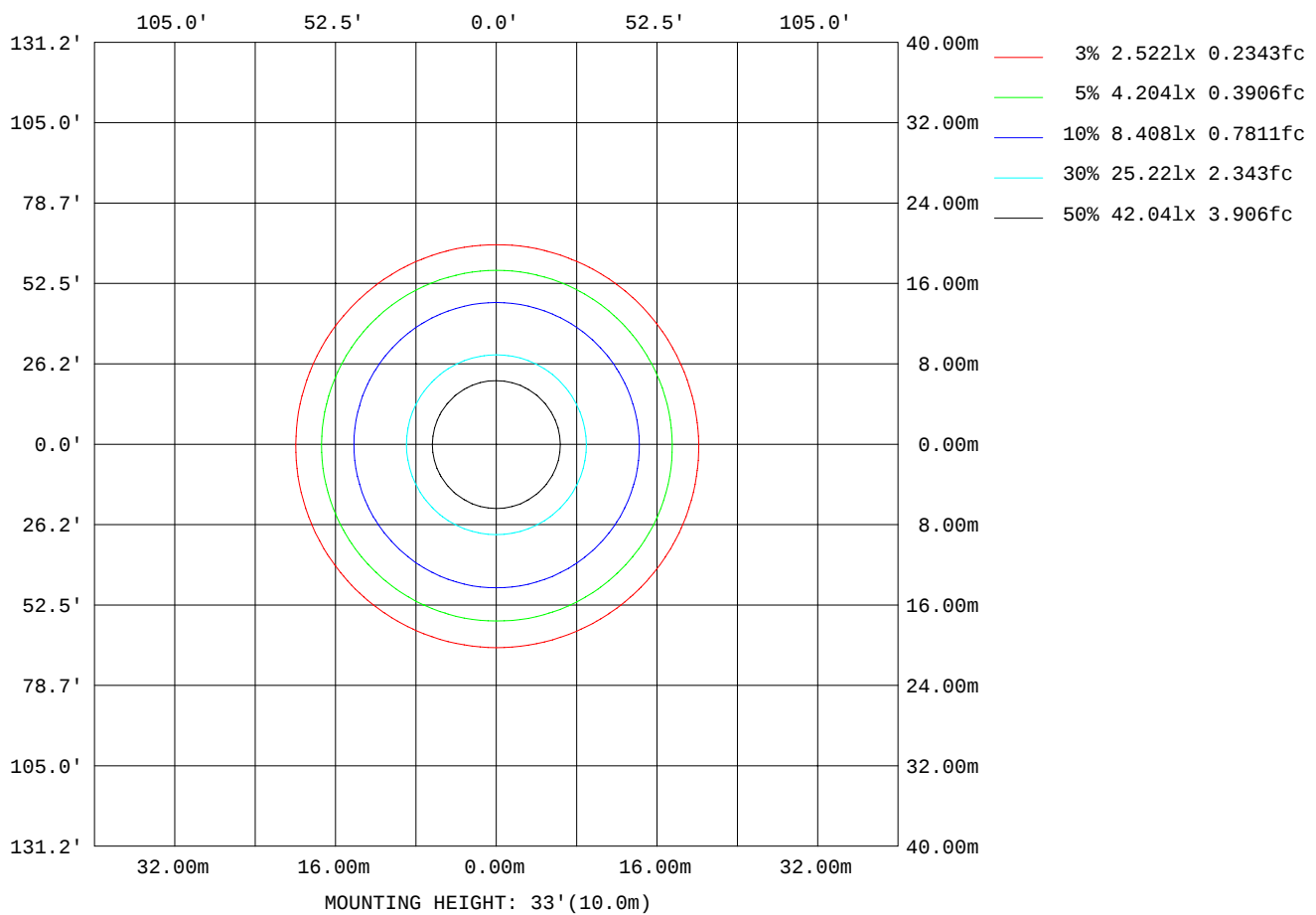
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.8DEG
 Operators:East
 Test Date:2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.351
 Humidity:35%
 Test Distance:2.490m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.8DEG
Operators: East
Test Date: 2020-07-19

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.351
Humidity: 35%
Test Distance: 2.490m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm		
NAME: LED Highbay	TYPE:N/A	WEIGHT:N/A
SPEC.:N/A	DIM.: N/A	SERIAL No.:N/A
MFR.: ERS	SUR.:N/A	Shielding Angle:N/A

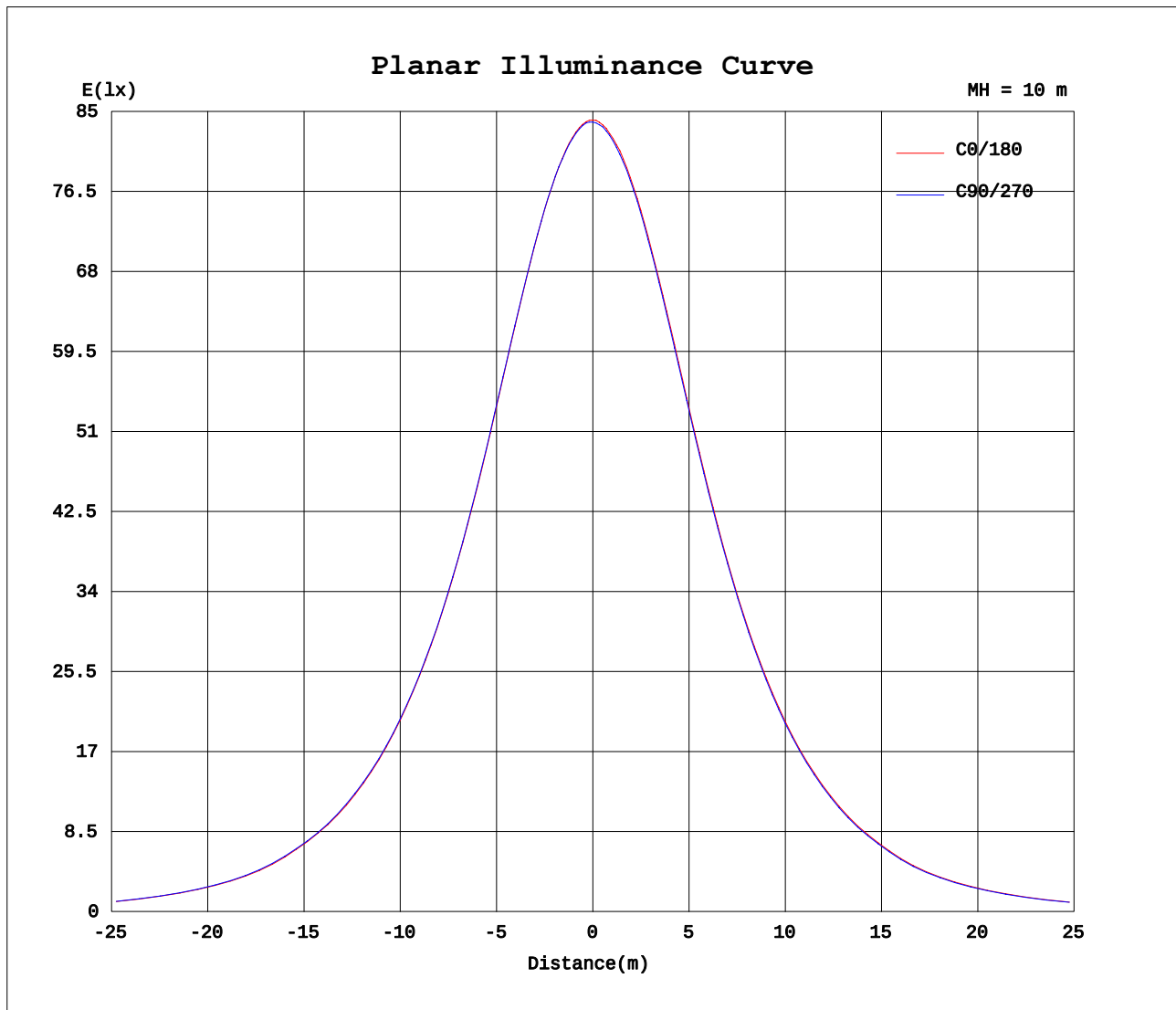
AvgL	cd/m2
L_0~180 (65) av	123595
L_0~180 (75) av	65718
L_0~180 (85) av	8692
L_90~270 (65) av	123771
L_90~270 (75) av	66278
L_90~270 (85) av	8952
L_45 (65) av	123301
L_45 (75) av	65902
L_45 (85) av	9263

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.8DEG
 Operators:East
 Test Date:2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.351
 Humidity:35%
 Test Distance:2.490m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.8DEG
Operators: East
Test Date: 2020-07-19

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.351
Humidity: 35%
Test Distance: 2.490m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.0V I:0.6303A P:145.7W PF:0.9630 Lamp Flux:22643.2x1 lm																	
NAME: LED Highbay									TYPE:N/A						WEIGHT:N/A		
SPEC.:N/A									DIM.: N/A						SERIAL No.:N/A		
MFR.: ERS									SUR.:N/A						Shielding Angle:N/A		

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395	8395			
5	8363	8349	8367	8354	8372	8362	8364	8360	8348	8343	8347	8342	8349	8342	8352	8359			
10	8269	8268	8278	8274	8293	8279	8276	8280	8262	8245	8243	8236	8253	8243	8254	8264			
15	8125	8118	8136	8137	8146	8142	8135	8127	8107	8085	8085	8083	8096	8084	8102	8108			
20	7898	7896	7910	7916	7930	7923	7918	7905	7879	7858	7856	7852	7865	7848	7871	7884			
25	7600	7589	7612	7616	7638	7616	7617	7606	7581	7554	7550	7550	7556	7538	7551	7578			
30	7215	7210	7228	7240	7263	7222	7226	7233	7196	7156	7161	7166	7172	7150	7168	7191			
35	6787	6789	6812	6815	6822	6804	6797	6787	6752	6736	6727	6720	6731	6723	6743	6755			
40	6298	6322	6336	6329	6342	6330	6312	6291	6256	6243	6233	6219	6226	6239	6255	6265			
45	5747	5781	5791	5792	5800	5791	5769	5733	5697	5689	5677	5653	5657	5673	5693	5714	</		