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Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
Express Imaging Systems LLC dba Evluma

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Catalog Number
OMNI-70-3K-ME

Order Number
11225212
Test Number
1234535

Revised Date
2016-04-18
Test Date

2016-04-11 - 2016-04-13

Prepared By

A handwritten signature in black ink, appearing to read 'Tony Rubio'.

Tony Rubio, Technician

Approved By

A handwritten signature in black ink, appearing to read 'Eric M. Gaudreau'.

Eric Gaudreau, Senior Engineering Associate

The results contained in this report pertain only to the tested sample.
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Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Lamp Description: Circular white plastic lamp with rubber frosted lens
Lamp: 96 White LEDs
Mounting: VBD
Ballast/Driver: Internal

Lamp



Lamp Characteristics

Luminous Diameter: 3.50 in.
Luminous Height: 1.500 in.

Summary of Results

Integrating Sphere

Luminous Flux: 7257 Lumens
Efficacy: 102.5 lm/w
CCT: 2986 K
CRI (Ra): 81.1

Distribution

Total Lamp Output: 7026 Lumens
Lamp Efficacy: 99.4 lm/w
Maximum Candela: 775 Candela

Electrical Data at 120 VAC

Test Temperature: 25.4 °C
Voltage: 120.1 VAC
Current: 0.5980 A
Power: 70.79 W
Power Factor: 0.986
Frequency: 60 Hz
Current THD: 16.9 %



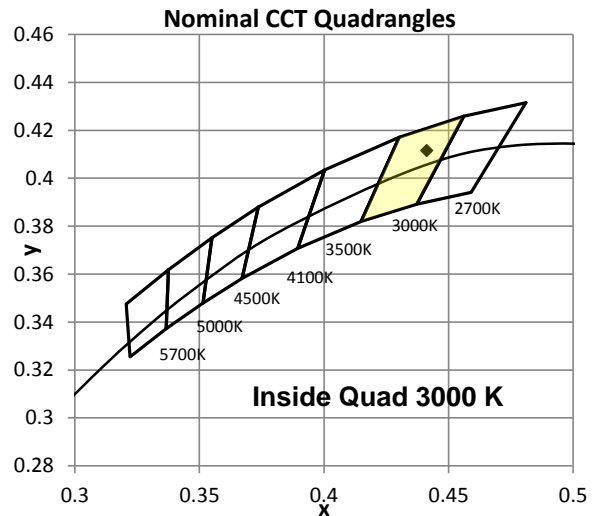
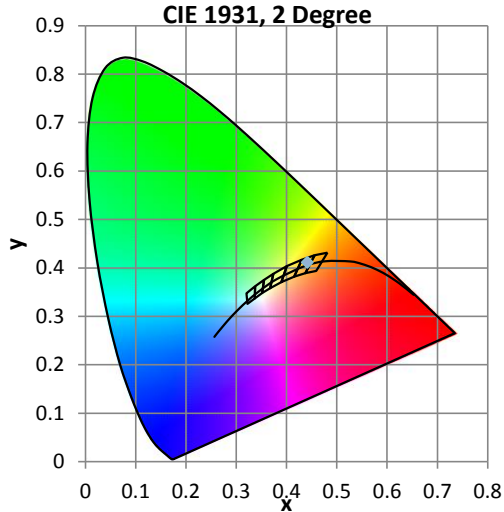
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.4 °C	120.1 VAC	0.5980 A	70.79 W	0.986	60 Hz	16.9 %

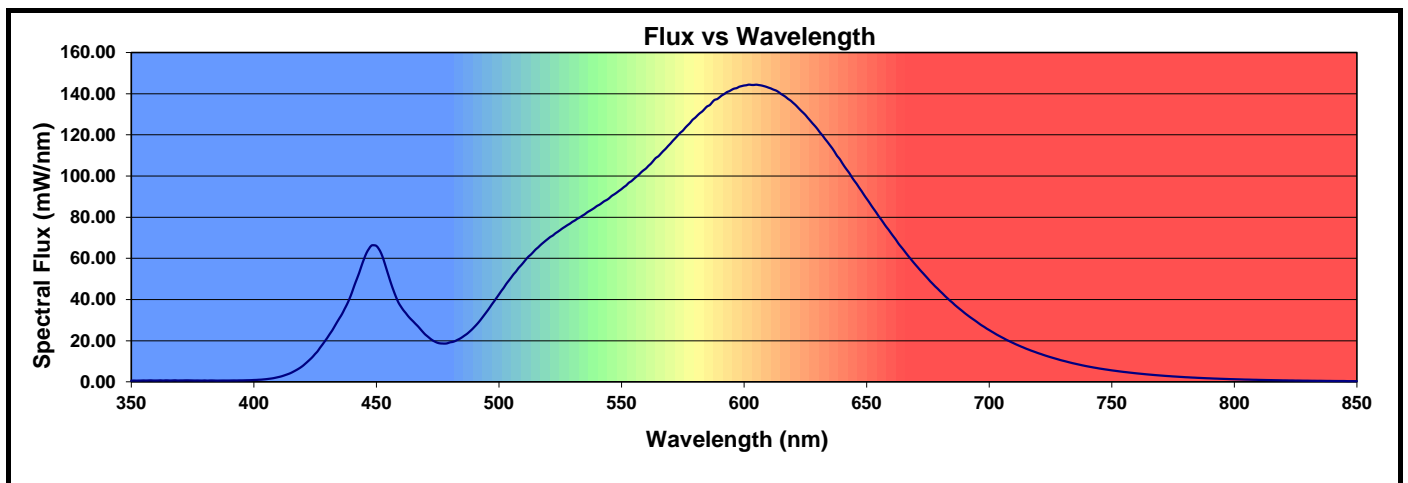
Summary of Results

Total Output:	7257 Lumens	Chromaticity (x):	0.4413
Efficacy:	102.5 lm/w	Chromaticity (y):	0.4115
CCT:	2986 K	Chromaticity (u'):	0.2502
CRI (Ra):	81.1	Chromaticity (v'):	0.5249
CRI (R9):	6.0	TM-30 R_f:	81.5
Peak Wavelength:	602.6 nm	TM-30 R_g:	97.0
Dominant Wavelength:	582.1 nm	Duv:	0.0022
S/P Ratio:	1.276		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.1	78.9	87.3	95.3	80.4	78.5	83.7	84.7	60.1	6.0	70.9	79.1	65.1	80.4	97.1





Distribution - Goniophotometer

Distribution Test Conditions

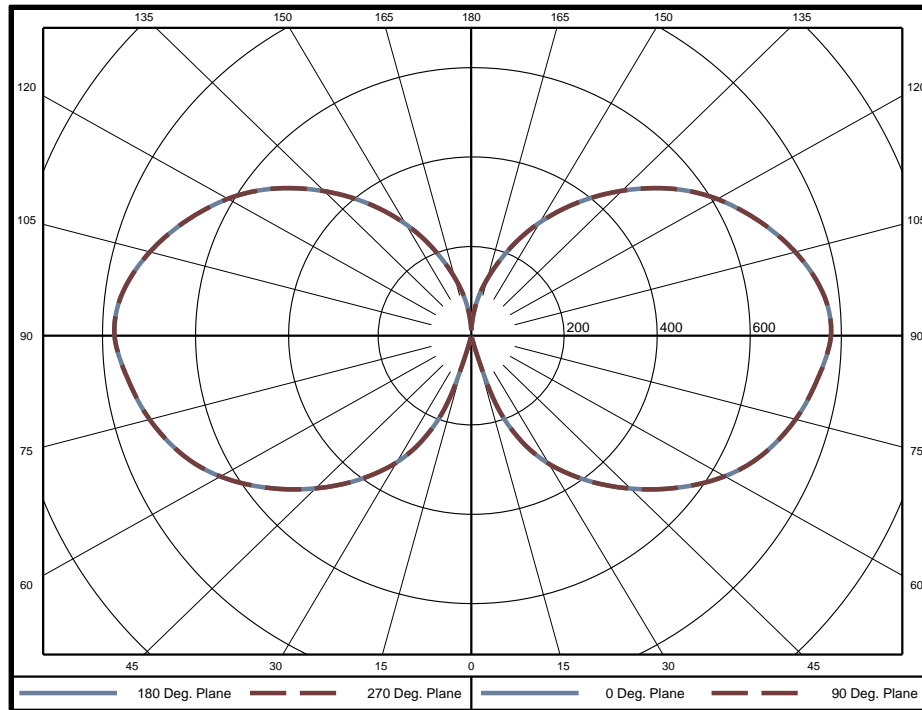
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.1 VAC	0.5971 A	70.68 W	0.986	60 Hz	16.8 %

Summary of Results

Spacing Criteria
 0-180: 13.53
 90-270: 13.53

Total Lumen Output: 7026 Lumens
Lamp Efficacy: 99.4 lm/w
Maximum Candela: 775 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.1	0.0%	60-65	316.2	4.5%	120-125	272.4	3.9%
5-10	0.4	0.0%	65-70	346.6	4.9%	125-130	234.9	3.3%
10-15	0.9	0.0%	70-75	371.9	5.3%	130-135	196.5	2.8%
15-20	17.9	0.3%	75-80	392.7	5.6%	135-140	159.5	2.3%
20-25	47.9	0.7%	80-85	408.7	5.8%	140-145	125.1	1.8%
25-30	76.0	1.1%	85-90	421.0	6.0%	145-150	93.9	1.3%
30-35	105.1	1.5%	90-95	423.8	6.0%	150-155	66.5	0.9%
35-40	136.4	1.9%	95-100	413.9	5.9%	155-160	43.3	0.6%
40-45	170.1	2.4%	100-105	394.6	5.6%	160-165	25.5	0.4%
45-50	206.0	2.9%	105-110	369.1	5.3%	165-170	13.0	0.2%
50-55	243.3	3.5%	110-115	339.5	4.8%	170-175	4.8	0.1%
55-60	280.9	4.0%	115-120	307.2	4.4%	175-180	0.7	0.0%

Zone	Lumens	% of Luminaire
0-40	385	5.5%
0-60	1285	18.3%
0-90	3542	50.4%
90-180	3484	49.6%



Candela Tabulation
Horizontal Angle (Degrees)

	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	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
10	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
15	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7
20	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3
25	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4	266.4
30	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7
35	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5
40	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9	433.9
45	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0	484.0
50	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5	534.5
55	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7	583.7
60	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9	629.9
65	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8	668.8
70	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7	698.7
75	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4	723.4
80	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1	743.1
85	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8	760.8
90	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6	774.6
95	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2	770.2
100	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9	750.9
105	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
110	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6	688.6
115	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3	651.3
120	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5	611.5
125	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7	565.7
130	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4
135	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1	458.1
140	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5	402.5
145	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5	346.5
150	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2
155	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6	233.6
160	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1	178.1
165	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7	129.7
170	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5
175	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
180	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

	0	45	90
0	755	755	755
45	107300	107300	107300
55	130900	130900	130900
65	156700	156700	156700
75	182200	182200	182200
85	211700	211700	211700



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	7535	7535	7535	7535	6954	6954	6954	6954	5871	5871	5871	4880	4880	4880	3970	3970	3970	3542
1	6449	5962	5525	5132	5884	5455	5069	4719	4508	4208	3933	3637	3407	3195	2834	2662	2501	2103
2	5703	4970	4364	3854	5175	4532	3994	3537	3710	3290	2927	2952	2629	2345	2251	2006	1789	1432
3	5103	4230	3555	3017	4617	3851	3250	2765	3136	2663	2273	2475	2108	1799	1861	1581	1342	1024
4	4606	3657	2961	2431	4162	3326	2705	2224	2703	2210	1820	2124	1739	1426	1586	1289	1044	762
5	4186	3198	2508	1999	3781	2910	2290	1827	2364	1869	1489	1855	1465	1159	1381	1079	836	585
6	3826	2825	2154	1672	3457	2572	1967	1527	2091	1604	1241	1642	1255	960	1222	920	684	460
7	3516	2518	1872	1419	3179	2294	1710	1295	1868	1394	1049	1469	1090	808	1094	797	570	368
8	3245	2261	1642	1217	2937	2062	1500	1110	1682	1224	898	1325	957	689	990	699	482	300
9	3009	2044	1453	1054	2727	1866	1328	961	1526	1085	776	1205	849	593	903	621	413	248
10	2800	1858	1295	920	2541	1698	1184	838	1392	968	676	1103	759	516	830	556	358	207

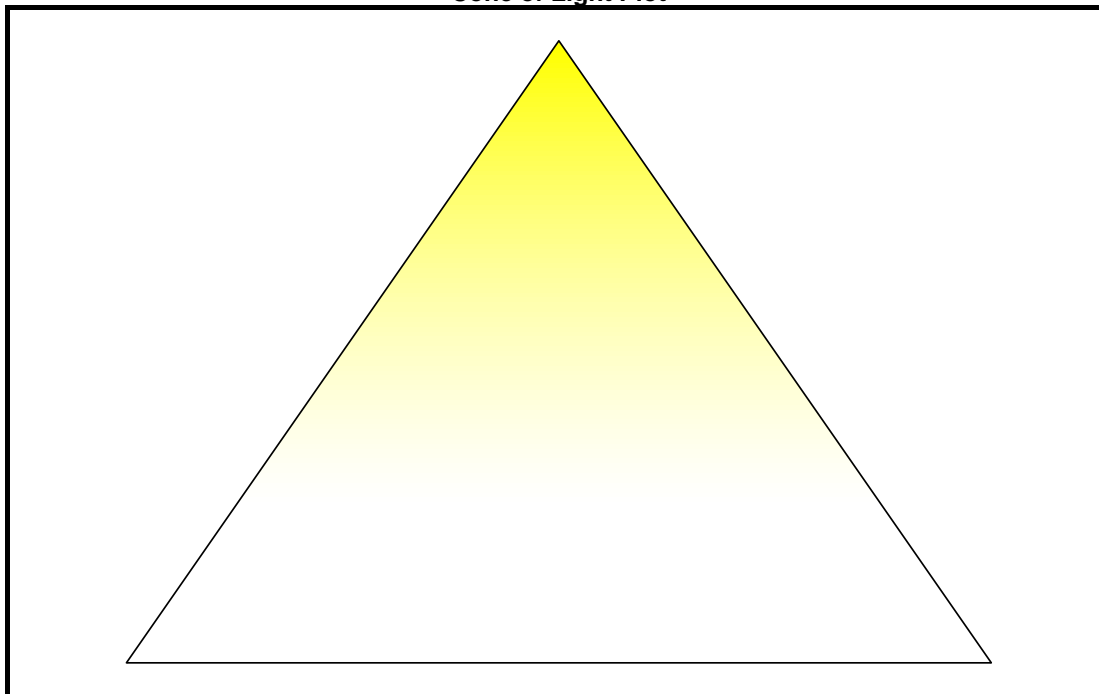
Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	0.293	54.1
6.00	0.130	81.2
8.00	0.0732	108
10.0	0.0469	135
12.0	0.0326	162
14.0	0.0239	189
16.0	0.0183	216

Beam and Field Information

CIE Type:	Direct/Indirect
Center Beam Intensity:	4.7 Candela
Central Cone Intensity:	5 Candela
Beam Flux:	7026.1 Lumens
Beam Angle (0-180):	#REF! Degrees
Beam Angle (90-270):	#REF! Degrees
Field Angle (0-180):	#REF! Degrees
Field Angle (90-270):	#REF! Degrees

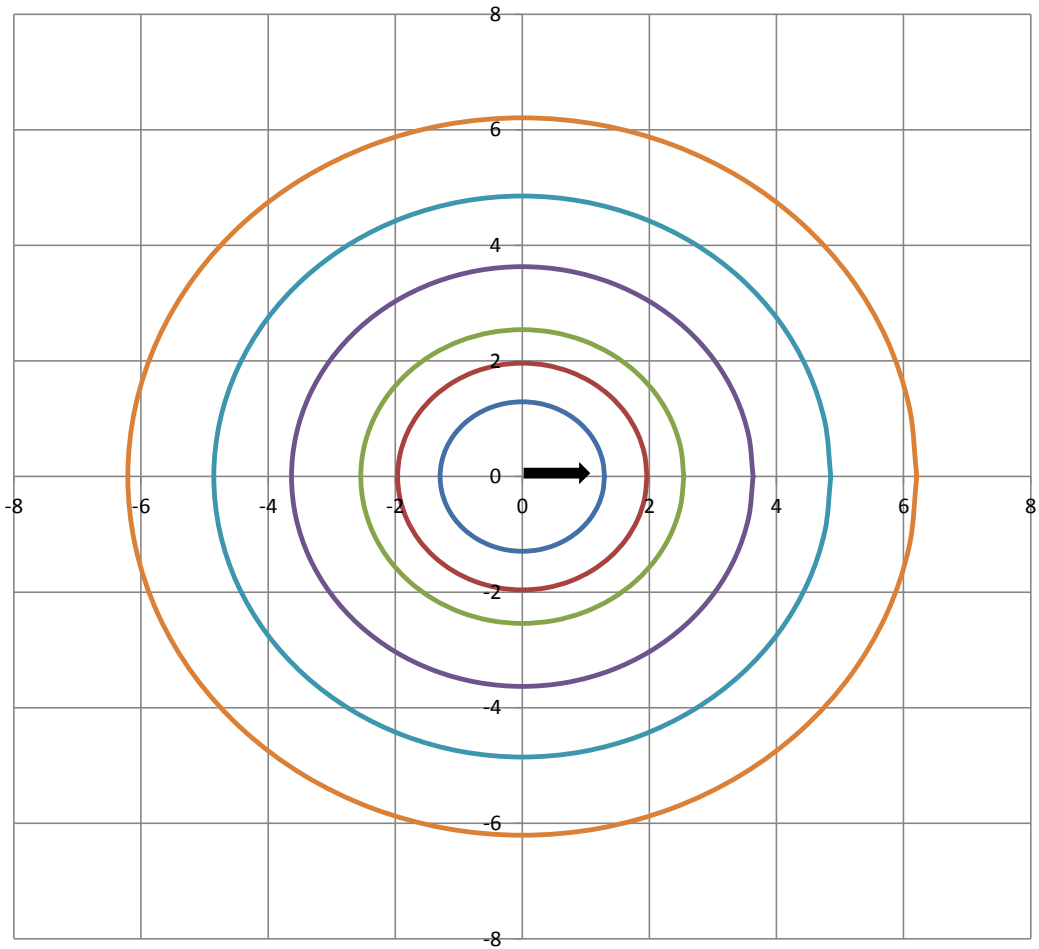
Cone of Light Plot





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

