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Photometric Test Report

Relevant Standards

IES LM-79-2008, ANSI C82.77-2002, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2015, IES TM-30-2015

Prepared For

Picasso Lighting Industries

46 Sellers St
Kearny, NJ 07032-4216
United States

Catalog Number

MED-R-168W-334K-R3A3E10-90-S-ZT-UE (Reading Light Only)

Order Number

11944942

Test Number

11944942.01

Test Date

2017-09-22 - 2017-09-25

Prepared By

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Javier Caban, Technician

Approved By

Alexa Lambert

Alexa Lambert, Project Handler

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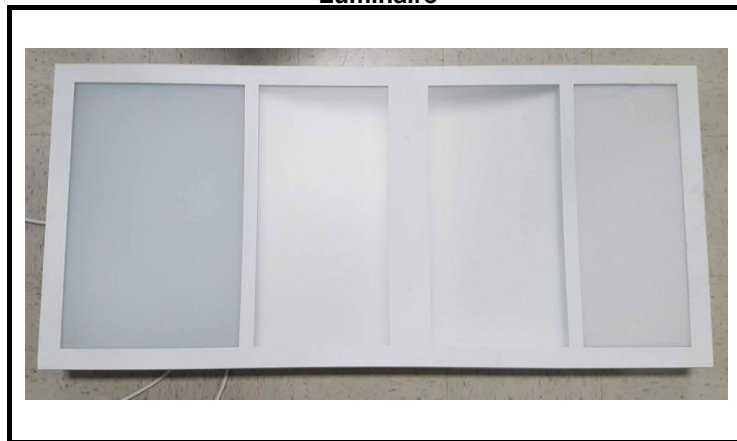
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: White formed steel housing, frosted plastic lens enclosure
Lamp: 36 white LEDs
Mounting: Recessed
Ballast/Driver: One Philips XI054C150V054BST1 driver

Luminaire



Luminaire Characteristics

Luminous Length: 44.50 in.
Luminous Width: 20.50 in.

Summary of Results

Integrating Sphere

Luminous Flux: 1525 Lumens
Efficacy: 62.1 lm/w
CCT: 3122 K
CRI (Ra): 92.9

Distribution

Total Luminaire Output: 1440 Lumens
Luminaire Efficacy: 58.4 lm/w
Maximum Candela: 520 Candela

Electrical Data at 120 VAC

Test Temperature: 24.8 °C
Voltage: 120.0 VAC
Current: 0.2071 A
Power: 24.57 W
Power Factor: 0.989
Frequency: 60 Hz
Current THD: 12.9 %



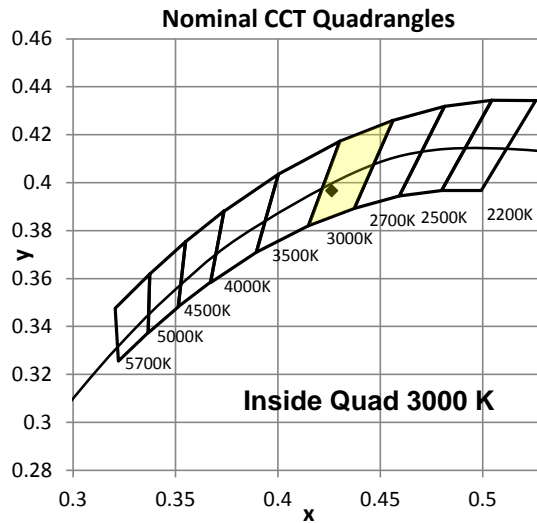
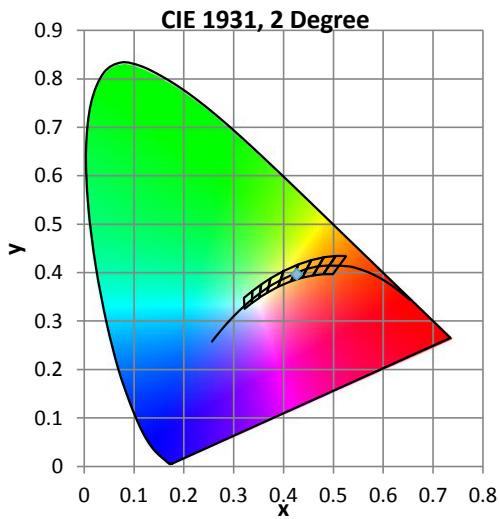
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	0.2071 A	24.57 W	0.989	60 Hz	12.9 %

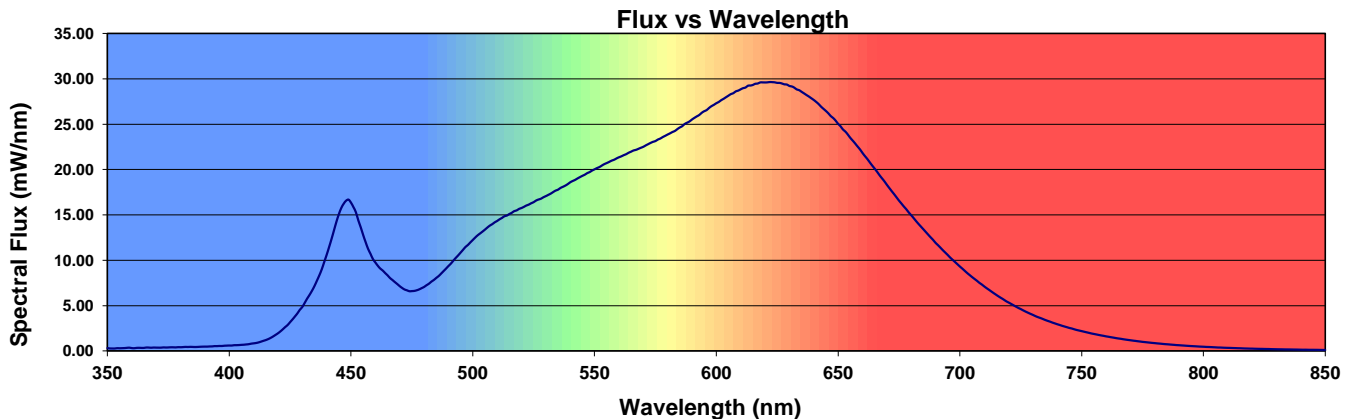
Summary of Results

Total Output:	1525 Lumens	Chromaticity (x):	0.4264
Efficacy:	62.1 lm/w	Chromaticity (y):	0.3966
CCT:	3122 K	Chromaticity (u'):	0.2469
CRI (Ra):	92.9	Chromaticity (v'):	0.5168
CRI (R9):	63.4	TM-30 Rf:	90.8
Peak Wavelength:	622.3 nm	TM-30 Rg:	101.5
Dominant Wavelength:	582.9 nm	Duv:	-0.0019
S/P Ratio:	1.462		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92.9	93.4	95.6	96.3	93.3	93.1	94.4	92.8	84.2	63.4	88.9	94.1	85.5	93.9	97.3





Distribution - Goniophotometer

Distribution Test Conditions

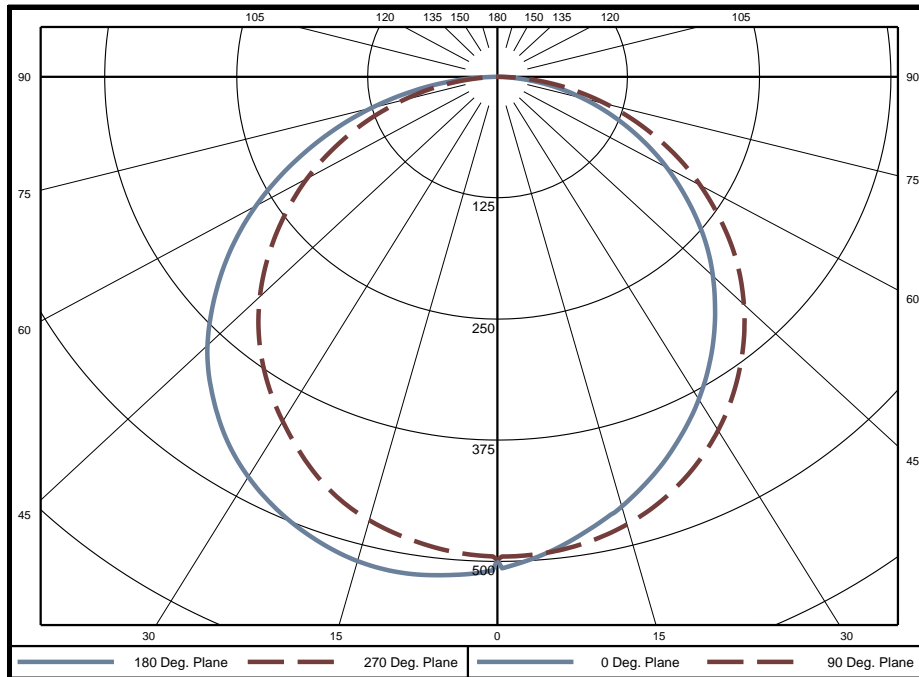
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.0 VAC	0.2077 A	24.65 W	0.989	60 Hz	12.9 %

Summary of Results

Spacing Criteria
 0-180: 1.16
 90-270: 1.26

Total Lumen Output: 1440 Lumens
Luminaire Efficacy: 58.4 lm/w
Maximum Candela: 520 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	11.9	0.8%	60-65	97.4	6.8%	120-125	0	0.0%
5-10	35.3	2.5%	65-70	81.3	5.6%	125-130	0	0.0%
10-15	57.5	4.0%	70-75	63.3	4.4%	130-135	0	0.0%
15-20	77.8	5.4%	75-80	44.4	3.1%	135-140	0	0.0%
20-25	95.3	6.6%	80-85	25.1	1.7%	140-145	0	0.0%
25-30	109.5	7.6%	85-90	7.0	0.5%	145-150	0	0.0%
30-35	120.1	8.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	126.6	8.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	129.0	9.0%	100-105	0	0.0%	160-165	0	0.0%
45-50	127.1	8.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	120.8	8.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	110.7	7.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	634	44.0%
0-60	1122	77.9%
0-90	1440	100.0%
90-180	0	0.0%



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	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4	498.4
5	495.1	492.0	488.7	490.4	493.7	497.9	501.1	503.7	516.2	512.1	504.0	497.6	491.9	487.6	483.5	481.5
10	477.6	476.0	475.8	480.8	488.1	496.4	502.8	507.6	519.9	515.1	504.7	494.6	484.5	476.1	469.0	465.4
15	459.1	458.0	459.6	467.2	478.2	490.0	499.2	506.2	517.5	511.8	499.5	487.2	473.8	461.9	452.5	447.3
20	436.8	436.7	440.0	449.8	463.7	478.6	490.5	498.8	508.4	502.0	487.7	473.4	458.0	443.9	432.6	425.8
25	411.7	412.5	416.8	428.1	444.5	461.7	476.0	486.3	494.9	487.2	470.4	453.2	436.0	420.6	408.5	401.1
30	384.8	385.8	390.7	403.4	421.3	440.8	457.5	469.4	476.9	468.2	450.6	431.1	410.6	393.3	381.2	373.6
35	355.2	356.4	362.0	375.7	394.4	415.5	433.7	446.8	453.8	444.3	425.9	405.7	384.0	364.8	351.0	343.2
40	323.8	325.1	331.2	345.2	364.7	386.4	405.1	419.0	425.3	415.0	396.3	375.9	354.5	335.2	320.1	311.6
45	291.4	292.8	299.2	313.3	332.7	354.2	373.3	387.0	392.6	382.1	363.1	342.2	321.4	302.4	287.9	280.0
50	257.9	258.7	265.4	279.3	298.5	318.7	336.5	350.9	353.3	343.8	325.4	305.1	285.4	267.2	253.5	246.6
55	222.0	223.2	230.2	243.4	261.1	279.8	297.3	311.4	311.9	302.1	284.3	266.1	248.2	230.6	218.8	212.9
60	186.9	188.0	194.2	206.7	223.4	240.3	255.5	268.7	267.2	259.0	243.2	226.3	210.5	193.5	182.5	177.5
65	151.5	153.0	158.7	170.0	185.0	199.2	212.5	223.4	220.0	213.4	200.4	185.7	171.1	156.5	147.1	142.7
70	116.8	118.1	123.7	133.1	145.7	157.1	168.2	177.0	172.3	166.8	156.0	143.8	132.4	120.6	112.7	109.2
75	83.2	85.0	89.3	96.9	106.9	116.3	124.4	130.8	125.6	121.2	112.6	102.8	93.8	84.9	79.4	76.4
80	51.6	53.1	57.2	62.9	69.8	76.0	82.1	86.3	79.2	75.8	70.3	63.7	57.3	51.4	47.1	45.1
85	20.6	22.1	25.1	29.2	33.7	38.2	41.6	44.3	36.0	34.1	29.8	25.6	22.2	18.4	15.7	14.6
90	0.2	0.2	0.6	1.6	2.7	3.9	5.1	5.2	0.9	0.6	0.4	0.2	0.2	0.2	0.2	0.2
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

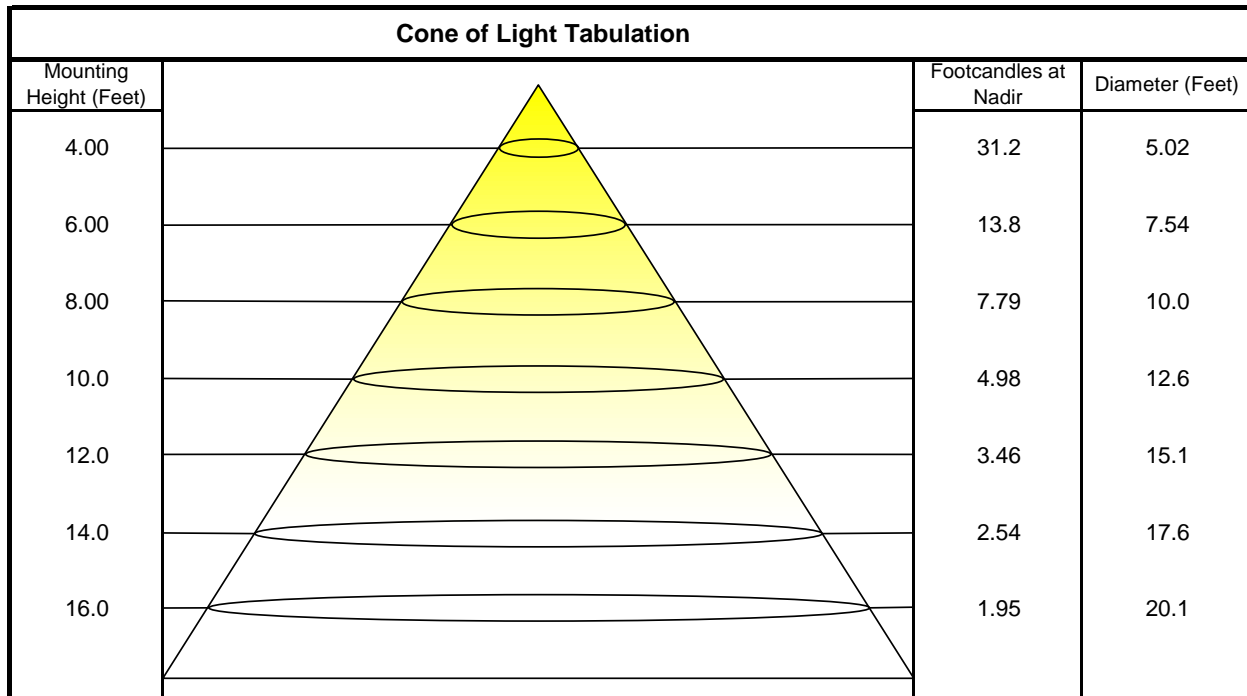
	0	45	90
0	847	847	847
45	700	719	800
55	658	682	773
65	609	638	744
75	546	586	702
85	401	489	658



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	1714	1714	1714	1714	1674	1674	1674	1674	1600	1600	1600	1532	1532	1532	1469	1469	1469	1440
1	1562	1491	1428	1371	1522	1458	1401	1348	1397	1349	1306	1340	1302	1266	1288	1257	1228	1197
2	1418	1297	1196	1112	1380	1269	1177	1098	1218	1140	1073	1170	1105	1048	1126	1073	1024	993
3	1291	1136	1017	922	1255	1114	1003	913	1070	975	897	1030	949	881	993	924	866	834
4	1181	1006	877	779	1148	986	866	773	950	845	763	916	825	752	885	806	742	710
5	1086	898	767	670	1055	881	758	666	851	742	658	822	726	651	795	711	644	613
6	1002	808	677	584	974	794	671	581	768	658	576	743	645	571	720	633	565	535
7	929	732	604	515	904	720	599	513	698	589	509	677	579	505	657	569	501	473
8	864	668	544	459	842	658	540	458	638	531	455	620	523	452	603	515	449	421
9	808	613	493	413	787	604	490	412	587	483	409	572	476	407	557	469	405	378
10	757	565	450	374	738	558	447	373	543	442	371	530	436	370	517	430	368	342

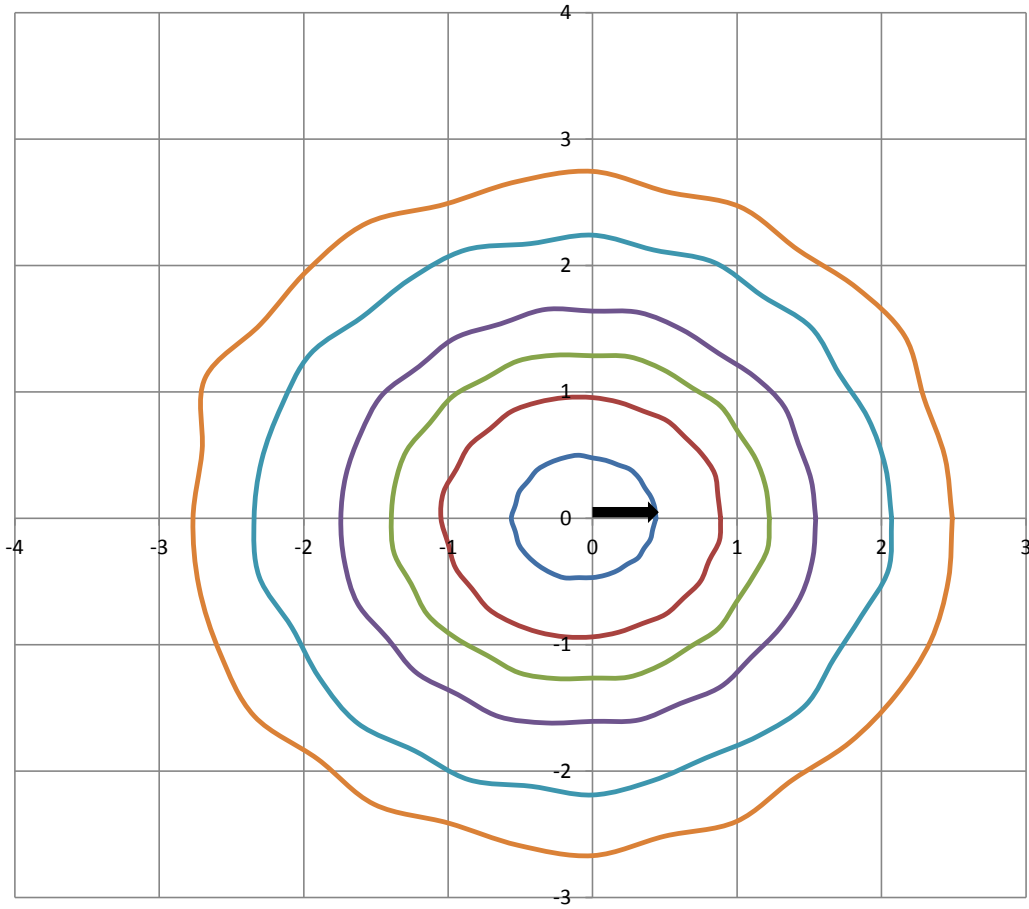
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	498.4 Candela
Central Cone Intensity:	498 Candela
Beam Flux:	1040.6 Lumens
Beam Angle (0-180):	113.2 Degrees
Beam Angle (90-270):	111.4 Degrees
Field Angle (0-180):	163.7 Degrees
Field Angle (90-270):	163.8 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

