

AMERICAN GAS LAMP WORKS TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

Model 3800 Baldwin Lamp

PROJECT NUMBER

G105724524

REPORT NUMBER

105724524CRT-003

ISSUE DATE

2/26/2024

REVISION DATE

None

TEST DATES

2/27/2024

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

105724524CRT-003

MODEL NUMBER(s)

MODEL 3800 BALDWIN LAMP

REPORT RENDERED TO:

AMERICAN GAS LAMP WORKS
1299 4TH AVE
NEW KENSINGTON, PA 15068

STATEMENT OF LIMITATION

NVLAP Lab Code 100402-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. government.

AUTHORIZATION

The testing performed was authorized by signed quote number QU-01416591.

TEST STANDARDS

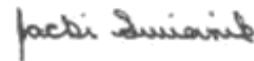
ANSI/IES LM-79-19: Optical and Electrical Measurements of Solid State Lighting Products
IES LM-79-08: Electrical and Photometric Measurements of Solid State Lighting

In Charge of Testing:



Melanie Brittain
Senior Associate Engineer
Lighting Division

Reviewer:



Jacki Swiernik
Staff Engineer
Lighting Division

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SAMPLE INFORMATION

REPORT NO. 105724524CRT-003

ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received Date	Sampling Date
1	CRT2402191502-003	Model 3800 Baldwin Lamp	4 Sided Outdoor Lamp with Frosted Poly Lens	Production	2/19/2024	N/A
2		CS15761_STRADA-2x2MX-8-SCL	Type II Lens			
3		CS15751_STRADA-2x2MX-8-DWC	Type III Lens			
4		CS15750_STRADA-2x2MX-8-T4-B	Type IV Lens			
5		CS15763_STRADA-2x2MX-8-VSM	Type V Lens			

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	Model 3800 Baldwin Lamp Type II	1, 2
2	Model 3800 Baldwin Lamp Type III	1, 3
3	Model 3800 Baldwin Lamp Type IV	1, 4
4	Model 3800 Baldwin Lamp Type V	1, 5

SUMMARY

REPORT NO. 105724524CRT-003

PRODUCT INFORMATION AND SUMMARY OF DATA

Test Configuration 1	
Product Model No.:	Model 3800 Baldwin Lamp
Product Description:	4 Sided Outdoor Lamp with Frosted Poly Lens
LED Model No.:	Lumileds XR-7070
Driver Model No.:	Inventronics EUM-050S150DT

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with ANSI/IES LM-79-19

DUT SAMPLING METHOD

For testing plans, program requirements, or shipments requiring sampling of DUTs or components, the selections for each test were random. All samples are marked with control numbers regardless of being tested.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the DUT. Electrical measurements of the unit were measured using a power analyzer. Each DUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature and relative humidity was measured at 25°C ± 1.2°C and 10-65% respectively at a position within 1.5m and at equal height of the DUT. Stabilization procedures to LM-79-19 were followed. The test distance was ≥ 5x the longest luminous dimension of the DUT.

ANSI/IES Technical Memorandums (TM) reported are not NVLAP accredited

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105724524CRT-003

Test Configuration	Tested Model No.	Pass/Fail/NA
1	Model 3800 Baldwin Lamp Type II	NA

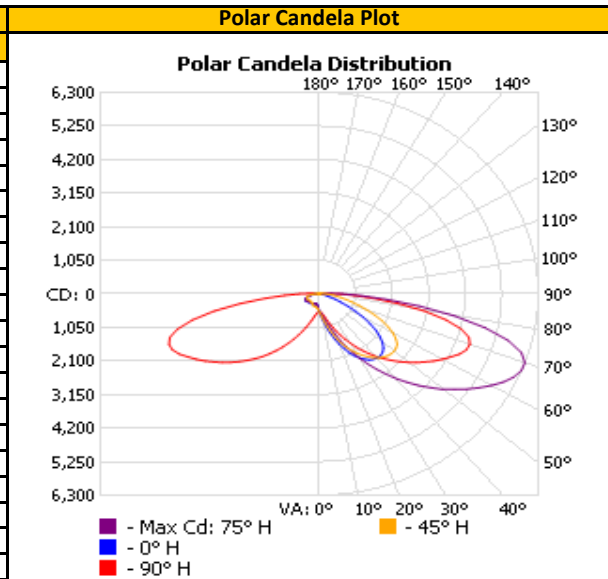
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS

Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Down	120.1	918.5	110.2	0.999

Light Output (lm)	Efficacy (lm/W)
9835.3	89.2

LUMINOUS INTENSITY SUMMARY (candela)

Vertical Angle (°)	Horizontal				
	0	30	45	65	90
0	552	552	552	552	552
5	735	719	695	650	584
10	993	960	917	834	682
15	1310	1246	1191	1102	851
20	1669	1556	1508	1466	1108
25	2025	1849	1837	1901	1417
30	2314	2096	2125	2370	1771
35	2516	2303	2393	2868	2165
40	2604	2424	2606	3405	2555
45	2573	2456	2744	3927	2938
50	2372	2369	2801	4429	3324
55	1989	2142	2735	4869	3704
60	1450	1739	2443	5226	4084
65	905	1237	1993	5359	4448
70	483	790	1452	5153	4607
75	239	472	972	4264	4223
80	124	287	628	2840	3069
85	67	181	389	1407	1567
90	40	116	226	516	591
95	27	78	129	185	220
100	21	56	81	89	109
105	17	42	56	56	64
110	15	32	41	38	40
115	13	25	31	27	27
120	13	20	23	20	20
125	12	16	17	15	16
130	11	12	13	11	13
135	9	8	8	7	10
140	7	5	5	4	8
145	5	2	1	2	5
150	2	0	0	0	2
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0



Full luminous intensity matrix found in .IES file

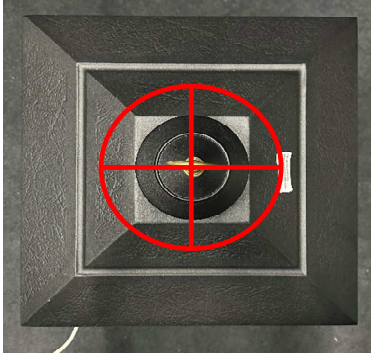
REPORT NO. 105724524CRT-003

ORIENTATION AND ALIGNMENT OF DUT

Luminous Opening		
Length (ft)	Width (ft)	Height (ft)
1.19	1.19	1.27
0°-180° H	90°-270° H	0°-180° V

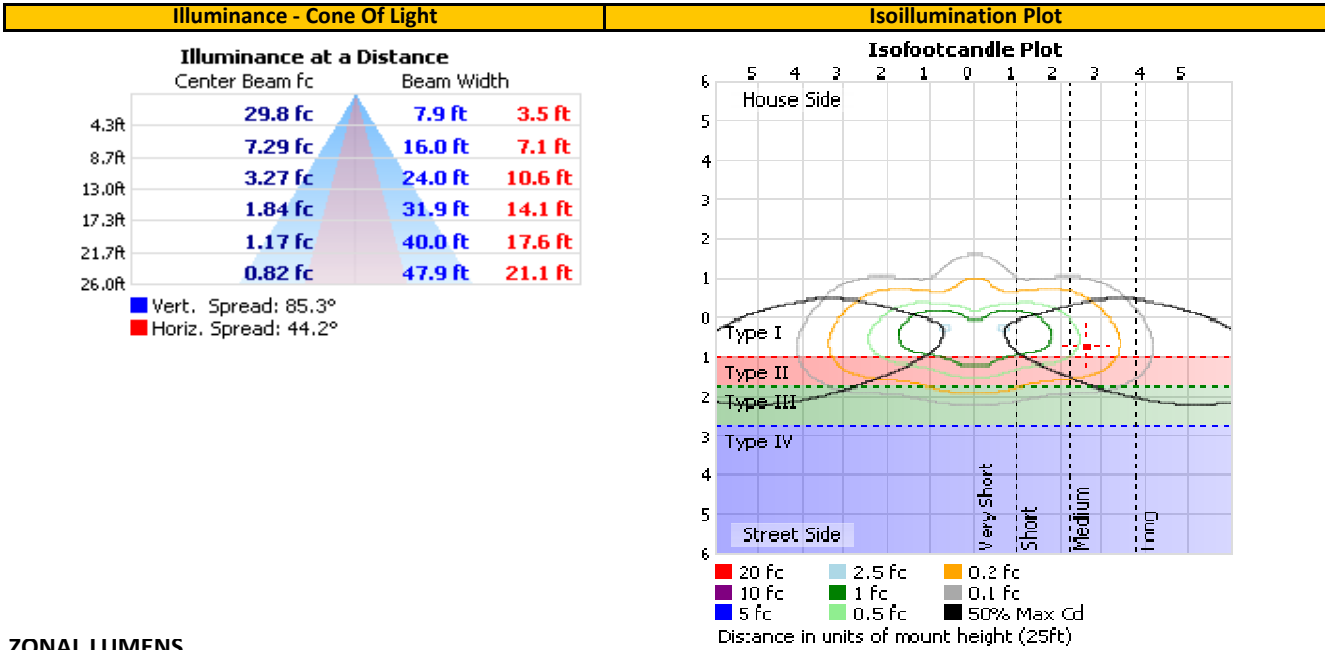
Test Distance (ft)
29.2

PHOTOMETRIC CENTER OF DUT



REPORT NO. 105724524CRT-003

ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary

Zone (°)	Lumens	Luminaire
0-30	868.2	8.8%
0-40	1,881.1	19.1%
0-60	5,220.2	53.1%
60-90	4,360.8	44.3%
70-100	2,525.6	25.7%
90-120	231.2	2.4%
0-90	9,581.1	97.4%
90-180	254.3	2.6%
0-180	9,835.3	100.0%

Zone (°)	Lumens	Total	Zone (°)	Lumens	Total
0-10	58.8	0.6%	90-100	152.7	1.6%
10-20	240.4	2.4%	100-110	53.0	0.5%
20-30	569.0	5.8%	110-120	25.4	0.3%
30-40	1012.8	10.3%	120-130	13.6	0.1%
40-50	1483.1	15.1%	130-140	6.9	0.1%
50-60	1856.1	18.9%	140-150	2.3	0.0%
60-70	1988.0	20.2%	150-160	0.2	0.0%
70-80	1662.7	16.9%	160-170	0.0	0.0%
80-90	710.2	7.2%	170-180	0.0	0.0%

LUM. CLASSIFICATION SYSTEM (LCS)

CS Zone	Lumens	% Lamp	% Lum
FL (0-30)	639.2	N.A.	6.5
FM (30-60)	3418.3	N.A.	34.8
FH (60-80)	2573.6	N.A.	26.2
FVH (80-90)	439.9	N.A.	4.5
BL (0-30)	227.9	N.A.	2.3
BM (30-60)	932.7	N.A.	9.5
BH (60-80)	1077.3	N.A.	11.0
BVH (80-90)	270.3	N.A.	2.7
UL (90-100)	152.7	N.A.	1.6
UH (100-180)	101.5	N.A.	1.0
Total	9833.4	N.A.	100.0
BUG Rating	B3-U3-G3		

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105724524CRT-003

Test Configuration	Tested Model No.	Pass/Fail/NA
2	Model 3800 Baldwin Lamp Type III	NA

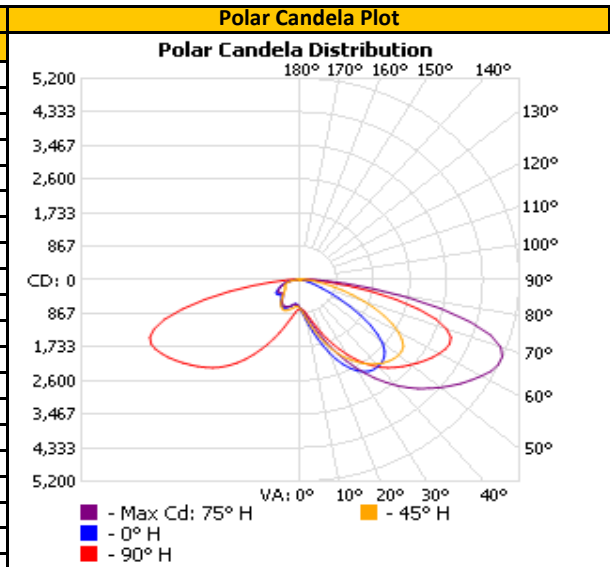
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS

Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Down	120.0	918.6	110.2	0.993

Light Output (lm)	Efficacy (lm/W)
9852.4	89.4

LUMINOUS INTENSITY SUMMARY (candela)

Vertical Angle (°)	Horizontal				
	0	30	45	65	90
0	743	743	743	743	743
5	919	902	879	837	784
10	1191	1152	1110	1034	912
15	1564	1472	1405	1325	1125
20	1993	1818	1748	1715	1452
25	2402	2141	2091	2148	1828
30	2706	2399	2377	2595	2220
35	2874	2604	2634	3034	2609
40	2897	2727	2829	3453	2935
45	2815	2771	2964	3817	3188
50	2554	2672	3036	4147	3408
55	2030	2370	2989	4414	3618
60	1347	1844	2688	4642	3803
65	768	1257	2202	4704	3912
70	401	784	1605	4461	3693
75	220	476	1035	3531	2904
80	133	301	609	2167	1713
85	80	192	335	960	725
90	50	123	188	338	289
95	34	82	114	140	150
100	26	59	78	81	96
105	21	45	57	57	62
110	18	35	43	41	40
115	16	28	33	30	29
120	15	23	26	23	23
125	15	18	20	18	19
130	13	14	15	14	17
135	11	10	11	10	13
140	9	7	7	7	11
145	6	3	3	4	7
150	3	1	0	1	4
155	0	0	0	0	1
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0



Full luminous intensity matrix found in .IES file

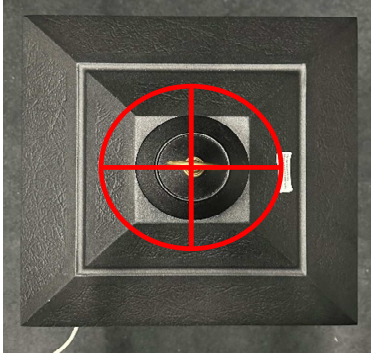
REPORT NO. 105724524CRT-003

ORIENTATION AND ALIGNMENT OF DUT

Luminous Opening		
Length (ft)	Width (ft)	Height (ft)
1.19	1.19	1.27
0°-180° H	90°-270° H	0°-180° V

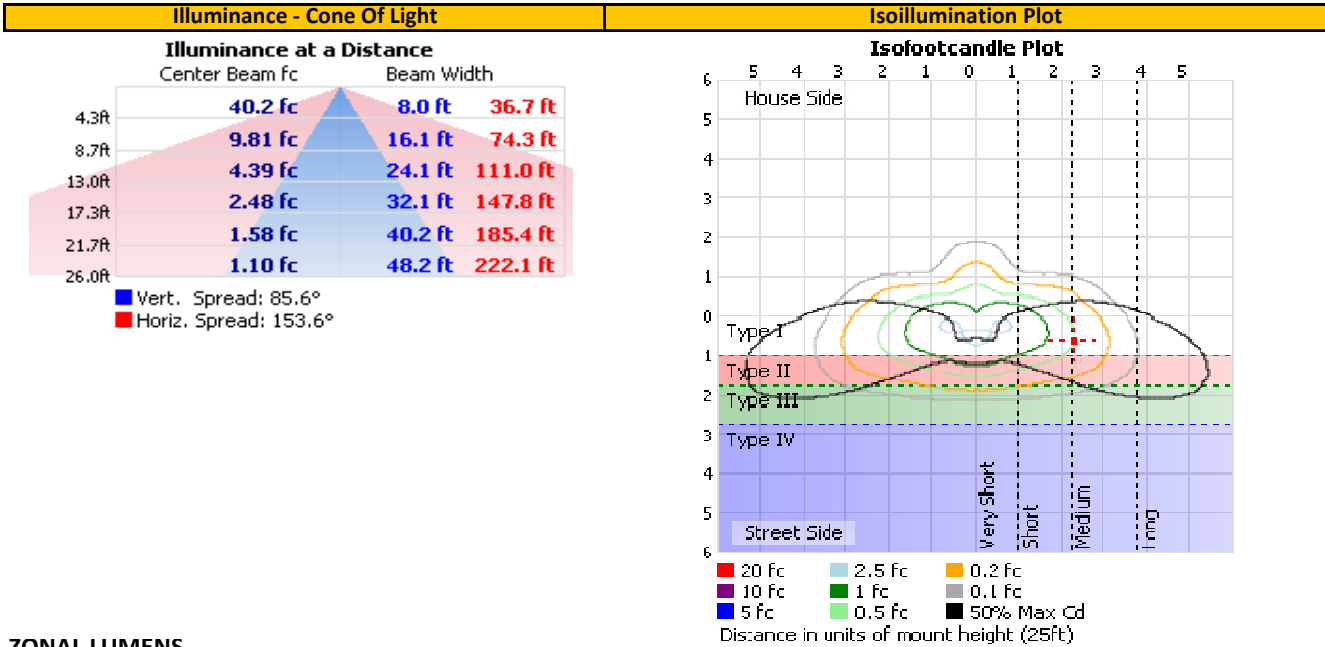
Test Distance (ft)
29.2

PHOTOMETRIC CENTER OF DUT



REPORT NO. 105724524CRT-003

ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary

Zone (°)	Lumens	Luminaire
0-30	1,146.3	11.6%
0-40	2,391.9	24.3%
0-60	5,967.6	60.6%
60-90	3,652.7	37.1%
70-100	1,917.8	19.5%
90-120	203.5	2.1%
0-90	9,620.2	97.6%
90-180	232.2	2.4%
0-180	9,852.4	100.0%

Zone (°)	Lumens	Total	Zone (°)	Lumens	Total
0-10	79.2	0.8%	90-100	120.9	1.2%
10-20	322.8	3.3%	100-110	54.3	0.6%
20-30	744.3	7.6%	110-120	28.3	0.3%
30-40	1245.6	12.6%	120-130	16.2	0.2%
40-50	1668.9	16.9%	130-140	8.8	0.1%
50-60	1906.7	19.4%	140-150	3.3	0.0%
60-70	1855.8	18.8%	150-160	0.4	0.0%
70-80	1329.2	13.5%	160-170	0.0	0.0%
80-90	467.6	4.7%	170-180	0.0	0.0%

LUM. CLASSIFICATION SYSTEM (LCS)

CS Zone	Lumens	% Lamp	% Lum	
FL	(0-30)	639.2	N.A.	6.5
FM	(30-60)	3418.3	N.A.	34.8
FH	(60-80)	2573.6	N.A.	26.2
FVH	(80-90)	439.9	N.A.	4.5
BL	(0-30)	227.9	N.A.	2.3
BM	(30-60)	932.7	N.A.	9.5
BH	(60-80)	1077.3	N.A.	11.0
BVH	(80-90)	270.3	N.A.	2.7
UL	(90-100)	152.7	N.A.	1.6
UH	(100-180)	101.5	N.A.	1.0
Total	-----	9833.4	N.A.	100.0
BUG Rating	B3-U3-G3			

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105724524CRT-003

Test Configuration	Tested Model No.	Pass/Fail/NA
3	Model 3800 Baldwin Lamp Type IV	NA

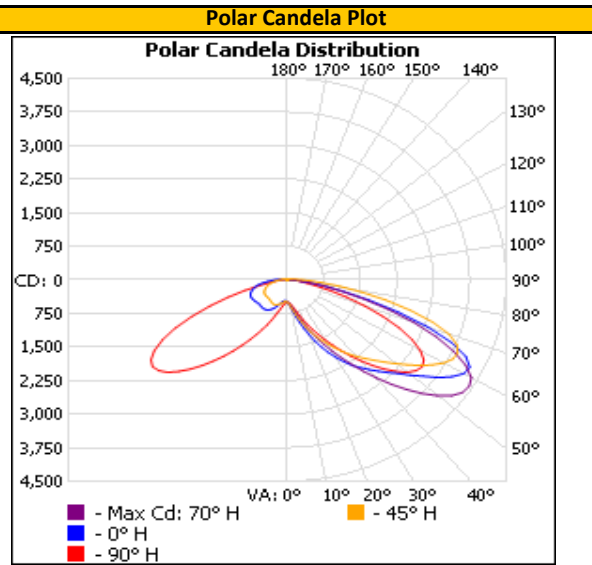
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS

Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Down	120.07	919.3	110.3	0.999

Light Output (lm)	Efficacy (lm/W)
9731.1	88.2

LUMINOUS INTENSITY SUMMARY (candela)

Vertical Angle (°)	Horizontal				
	0	30	45	65	90
0	498	498	498	498	498
5	584	578	567	548	524
10	747	724	703	664	603
15	985	926	889	847	742
20	1294	1175	1120	1103	955
25	1652	1438	1387	1424	1220
30	1994	1707	1650	1801	1540
35	2332	1973	1940	2241	1933
40	2615	2227	2236	2757	2367
45	2923	2498	2543	3311	2816
50	3313	2822	2909	3847	3208
55	3801	3244	3333	4253	3383
60	4185	3702	3711	4349	3156
65	4049	3914	3862	3958	2541
70	3069	3527	3534	3097	1689
75	1738	2505	2621	1919	895
80	762	1373	1546	947	410
85	288	623	728	414	215
90	113	266	317	195	142
95	55	127	155	113	103
100	34	76	93	77	73
105	25	54	66	56	49
110	19	40	48	41	33
115	16	31	36	30	23
120	14	24	27	22	18
125	13	18	21	17	16
130	12	14	15	12	13
135	10	10	11	9	11
140	8	7	7	6	9
145	6	4	3	4	6
150	3	1	0	2	4
155	1	0	0	0	2
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0



Full luminous intensity matrix found in .IES file

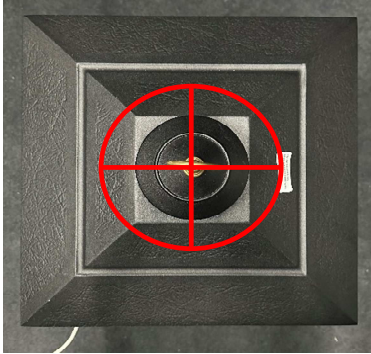
REPORT NO. 105724524CRT-003

ORIENTATION AND ALIGNMENT OF DUT

Luminous Opening		
Length (ft)	Width (ft)	Height (ft)
1.19	1.19	1.27
0°-180° H	90°-270° H	0°-180° V

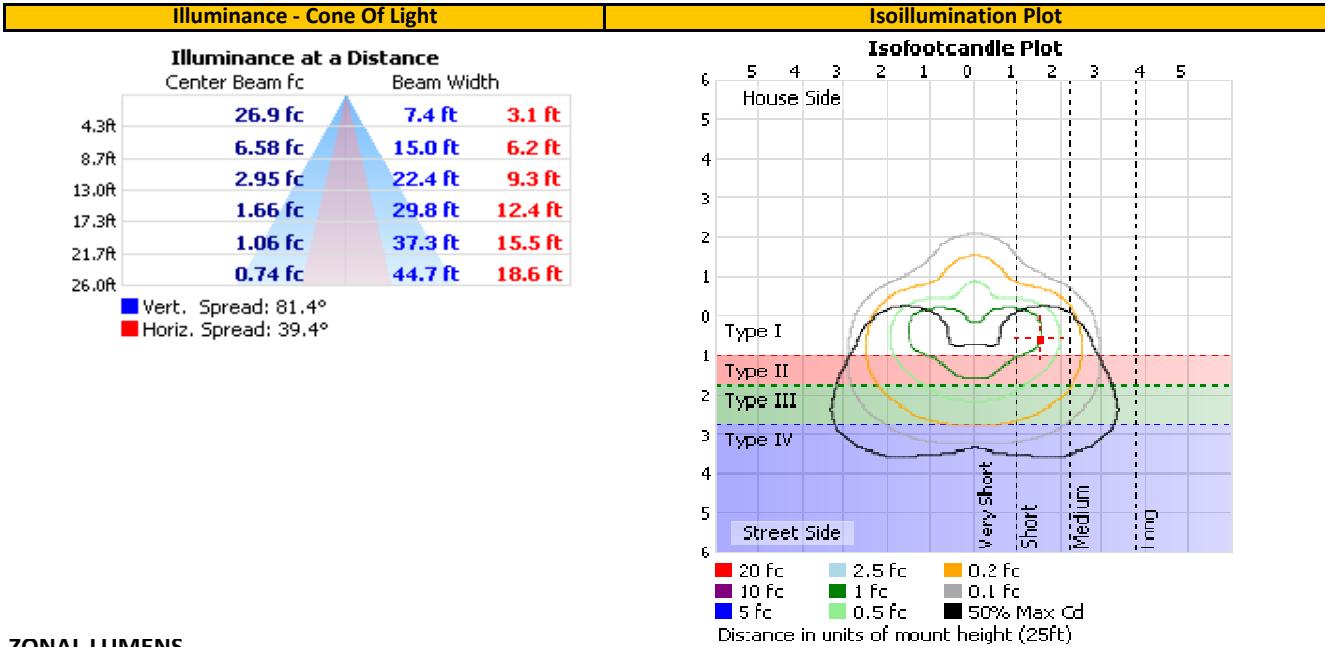
Test Distance (ft)
29.2

PHOTOMETRIC CENTER OF DUT



REPORT NO. 105724524CRT-003

ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary

Zone (°)	Lumens	Luminaire
0-30	783.8	8.1%
0-40	1,736.1	17.8%
0-60	5,390.6	55.4%
60-90	4,090.6	42.0%
70-100	1,938.2	19.9%
90-120	223.0	2.3%
0-90	9,481.2	97.4%
90-180	249.9	2.6%
0-180	9,731.1	100.0%

Zone (°)	Lumens	Total	Zone (°)	Lumens	Total
0-10	52.9	0.5%	90-100	134.1	1.4%
10-20	215.8	2.2%	100-110	59.9	0.6%
20-30	515.2	5.3%	110-120	29.0	0.3%
30-40	952.3	9.8%	120-130	15.4	0.2%
40-50	1516.6	15.6%	130-140	8.0	0.1%
50-60	2137.9	22.0%	140-150	3.1	0.0%
60-70	2286.5	23.5%	150-160	0.5	0.0%
70-80	1368.9	14.1%	160-170	0.0	0.0%
80-90	435.2	4.5%	170-180	0.0	0.0%

LUM. CLASSIFICATION SYSTEM (LCS)

CS Zone	Lumens	% Lamp	% Lum
FL (0-30)	499.5	N.A.	5.1
FM (30-60)	3459.6	N.A.	35.6
FH (60-80)	2917.7	N.A.	30.0
FVH (80-90)	288.9	N.A.	3.0
BL (0-30)	283.3	N.A.	2.9
BM (30-60)	1145.6	N.A.	11.8
BH (60-80)	738.2	N.A.	7.6
BVH (80-90)	146.4	N.A.	1.5
UL (90-100)	134.0	N.A.	1.4
UH (100-180)	115.8	N.A.	1.2
Total	9729.0	N.A.	100.0
BUG Rating	B2-U3-G3		

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

REPORT NO. 105724524CRT-003

Test Configuration	Tested Model No.	Pass/Fail/NA
4	Model 3800 Baldwin Lamp Type V	NA

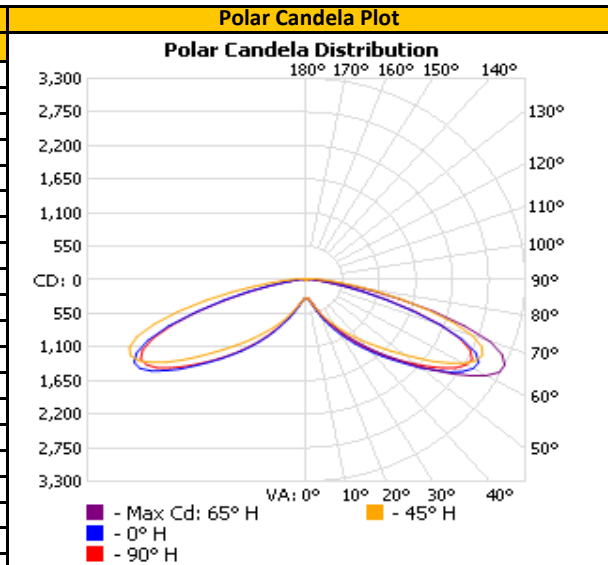
PHOTOMETRIC AND ELECTRICAL MEASUREMENTS

Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Down	120.03	919.7	110.4	0.999

Light Output (lm)	Efficacy (lm/W)
10327.6	93.6

LUMINOUS INTENSITY SUMMARY (candela)

Vertical Angle (°)	Horizontal				
	0	30	45	65	90
0	291	291	291	291	291
5	314	313	311	308	305
10	377	371	365	359	350
15	481	459	448	445	431
20	628	579	558	572	565
25	814	721	699	732	738
30	1026	896	861	927	954
35	1275	1108	1059	1163	1213
40	1542	1361	1289	1453	1500
45	1855	1657	1557	1791	1806
50	2237	2023	1900	2201	2147
55	2632	2481	2324	2676	2514
60	2902	2924	2733	3132	2780
65	2813	3081	2930	3299	2724
70	2140	2680	2659	2944	2151
75	1235	1811	1906	1972	1262
80	580	945	1079	986	572
85	260	436	514	412	249
90	151	217	254	191	148
95	105	133	152	120	105
100	73	94	106	87	72
105	47	69	78	64	46
110	29	49	56	46	29
115	20	35	41	32	20
120	15	25	30	23	15
125	12	19	22	17	12
130	10	13	16	12	10
135	9	9	11	9	8
140	7	6	7	6	6
145	5	4	4	4	4
150	3	2	1	2	2
155	1	0	0	0	1
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0



Full luminous intensity matrix found in .IES file

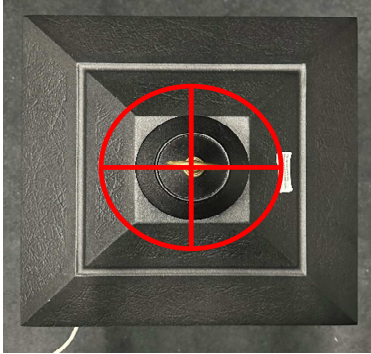
REPORT NO. 105724524CRT-003

ORIENTATION AND ALIGNMENT OF DUT

Luminous Opening		
Length (ft)	Width (ft)	Height (ft)
1.19	1.19	1.27
0°-180° H	90°-270° H	0°-180° V

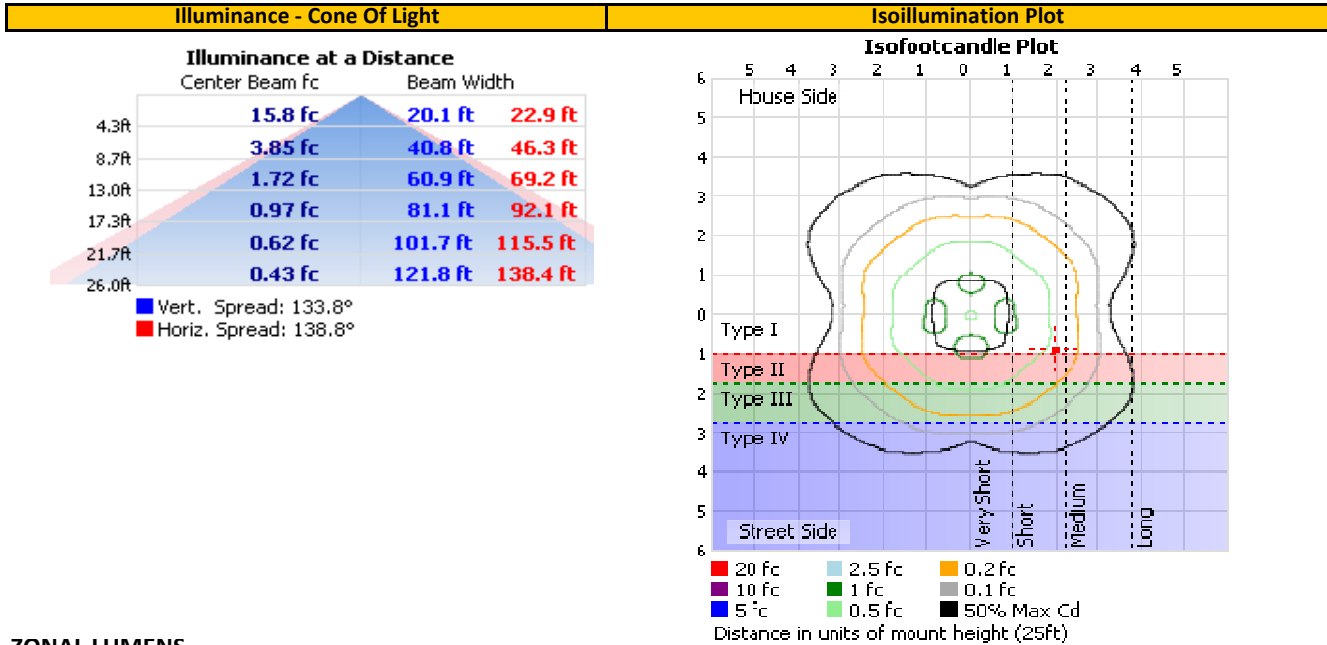
Test Distance (ft)
29.2

PHOTOMETRIC CENTER OF DUT



REPORT NO. 105724524CRT-003

ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary

Zone (°)	Lumens	Luminaire
0-30	505.5	4.9%
0-40	1,235.7	12.0%
0-60	4,856.5	47.0%
60-90	5,207.4	50.4%
70-100	2,444.3	23.7%
90-120	239.0	2.3%
0-90	10,063.9	97.4%
90-180	263.7	2.6%
0-180	10,327.6	100.0%

Zone (°)	Lumens	Total	Zone (°)	Lumens	Total
0-10	31.1	0.3%	90-100	142.0	1.4%
10-20	131.1	1.3%	100-110	66.6	0.6%
20-30	343.4	3.3%	110-120	30.4	0.3%
30-40	730.2	7.1%	120-130	14.7	0.1%
40-50	1350.2	13.1%	130-140	7.0	0.1%
50-60	2270.6	22.0%	140-150	2.6	0.0%
60-70	2905.1	28.1%	150-160	0.3	0.0%
70-80	1821.8	17.6%	160-170	0.0	0.0%
80-90	480.5	4.7%	170-180	0.0	0.0%

LUM. CLASSIFICATION SYSTEM (LCS)

CS Zone	Lumens	% Lamp	% Lum
FL (0-30)	257.7	N.A.	2.5
FM (30-60)	2201.4	N.A.	21.3
FH (60-80)	2358.7	N.A.	22.8
FVH (80-90)	238.5	N.A.	2.3
BL (0-30)	246.9	N.A.	2.4
BM (30-60)	2147.2	N.A.	20.8
BH (60-80)	2368.7	N.A.	22.9
BVH (80-90)	242.1	N.A.	2.3
UL (90-100)	142.0	N.A.	1.4
UH (100-180)	121.6	N.A.	1.2
Total	10324.8	N.A.	100.0
BUG Rating	B3-U3-G3		

EQUIPMENT LIST

REPORT NO. 105724524CRT-003

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	LSI Type C Goniophotometer System	6440	---	2/1/2024	5/1/2024
2	Elgar AC Power Supply	CW1251	---	VBU	VBU
3	Yokogawa Power Analyzer	WT210	E464	6/21/2023	6/21/2024
4	Traceable Hygrothermometer	4800	L206	3/7/2023	3/7/2024
5	Omega Thermometer	DPI8-C24	M263	3/9/2023	3/9/2024

The AC power supplies used for testing have a crest factor capable of 0-3.5

REVISION HISTORY

#	Revision Date	Updated By	Reviewed By	Description of Change
---	None	---	---	---
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