



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L062014303R02



Report No: L062014303R02

Issue Date: 8/13/2020

Report Prepared For: Leadsun Inc
1920 South Archibald Ave Unit I Ontario CA 91761

Model Number: RS30-T2/30W/4000K

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:

IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with 1.36A constant current source.

Sample Arrival Date: 7/6/20

Date of Tests: 8/12/20 - 8/13/20

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	Leadsun Inc
Model Number:	RS30-T2/30W/4000K
Driver Model Number:	N/A

Test Summary

Total Lumens:	5290.30
Efficacy:	176.24
Color Redering Index:	72.4
Correlated Color Temperature:	3963
Input Voltage (VDC):	22.09
Input Current (Amp):	1.3588
Input Power (W):	30.02
Input Power Factor:	1.0000
Current ATHD (%):	N/A

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:05

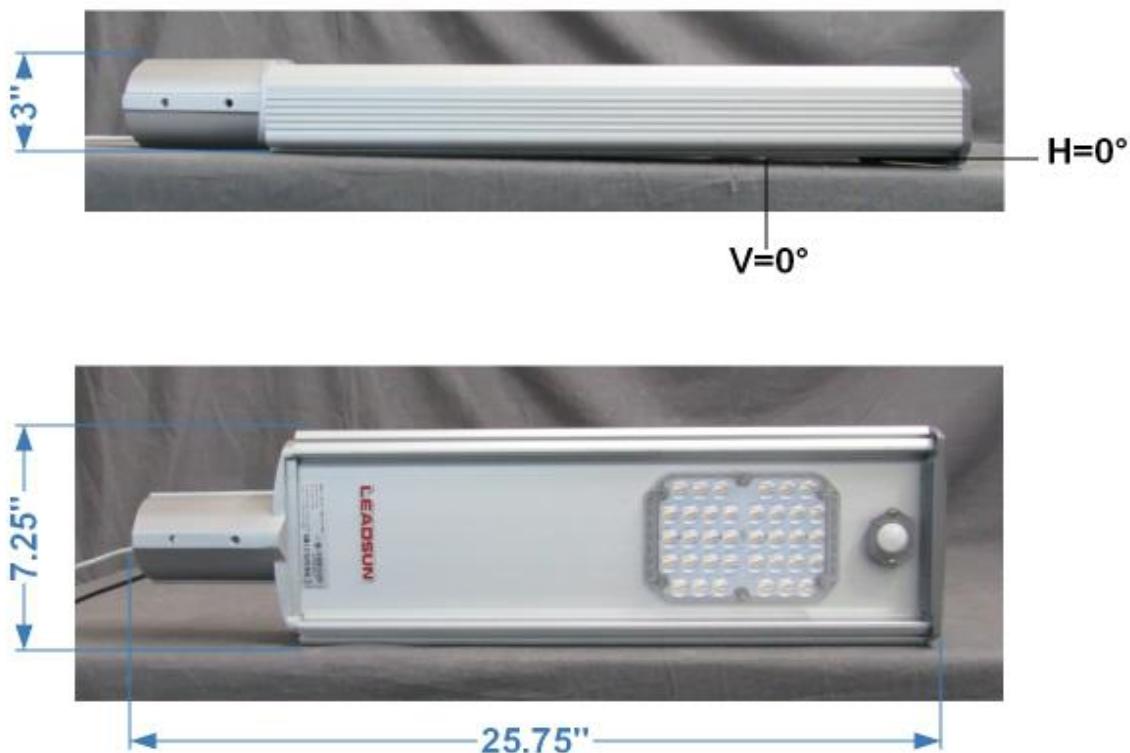
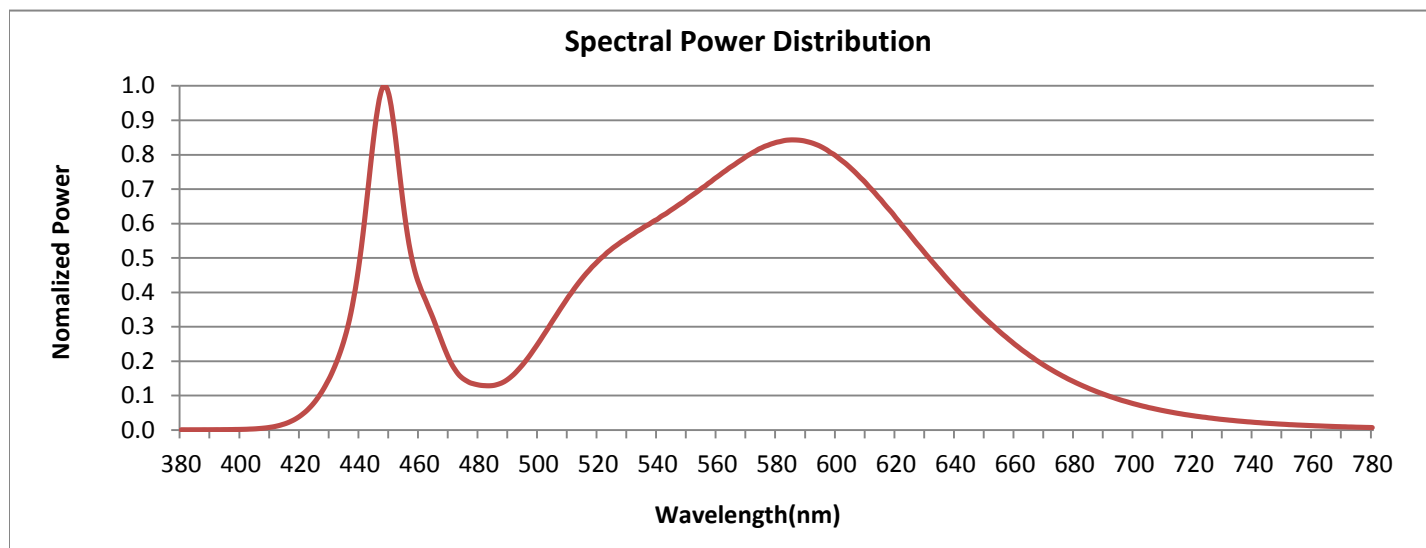


FIG. 1 LUMINAIRE

Colorimetry Test Results

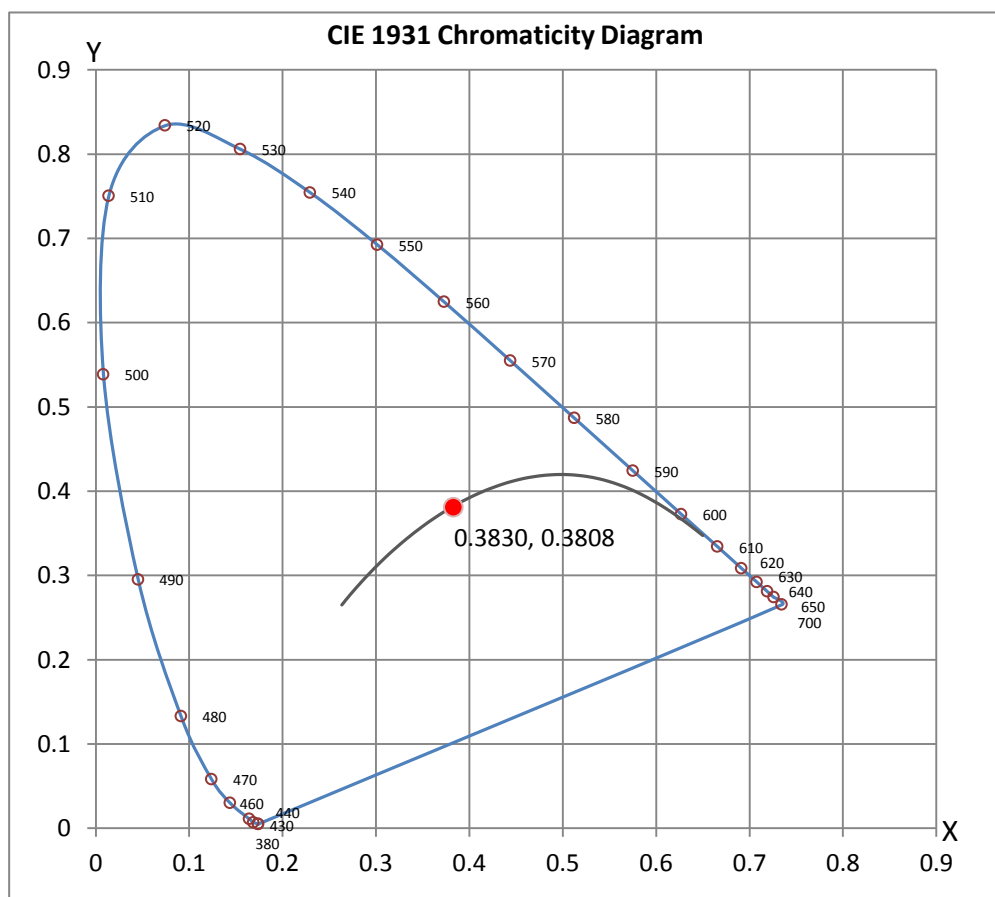


CRI & CCT

x	0.3830
y	0.3808
u'	0.2252
v'	0.5037
CRI	72.40
CCT	3963
Duv	0.00115

R Values

R1	68.77
R2	79.72
R3	88.63
R4	70.96
R5	68.83
R6	71.58
R7	80.64
R8	50.14
R9	-33.72
R10	52.50
R11	66.78
R12	43.98
R13	70.69
R14	93.36
R15	61.99





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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 13*



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Photometric Test Report

IES ROAD REPORT

PHOTOMETRIC FILENAME : L062014303R02.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L062014303R02
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/13/2020
[MANUFAC] Leadsun Inc
[LUMCAT] RS30-T2/30W/4000K
[LUMINAIRE] 30W 4000K luminaire with 36 chips and T2 lens
[BALLASTCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[POWER SUPPLY] 1.36A CONSTANT CURRENT SOURCE
[INPUT] 22.09VDC, 30.02W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5290
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	176
Total Luminaire Watts	30.02
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	3222
Maximum Candela Angle	75H 57.5V
Maximum Candela (<90 Degrees Vertical)	3222
Maximum Candela Angle (<90 Degrees Vertical)	75H 57.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	257 (4.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	746.9	N.A.	14.1
FM - Front-Medium (30-60)	1940.3	N.A.	36.7
FH - Front-High (60-80)	603.6	N.A.	11.4
FVH - Front-Very High (80-90)	19.4	N.A.	0.4
BL - Back-Low (0-30)	510.3	N.A.	9.6
BM - Back-Medium (30-60)	1017.8	N.A.	19.2
BH - Back-High (60-80)	432.8	N.A.	8.2
BVH - Back-Very High (80-90)	19.2	N.A.	0.4
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	5290.3	N.A.	100.0
BUG Rating	B2-U0-G1		

ZONAL LUMEN SUMMARY

Zone	%
0-20	10.8
0-30	23.8
0-40	41.1
0-60	79.7
0-80	99.3
0-90	100
10-90	97.2
20-40	30.3
20-50	49.9
40-70	53.2
60-80	19.6
70-80	5
80-90	0.7
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0.0	1537	1537	1537	1537	1537	1537	1537	1537	1537	1537
5.0	1634	1636	1636	1630	1629	1627	1620	1613	1605	1598
10.0	1706	1707	1706	1700	1698	1694	1682	1670	1658	1646
15.0	1763	1764	1760	1755	1757	1753	1739	1726	1715	1704
20.0	1859	1855	1848	1839	1836	1825	1807	1791	1782	1775
25.0	1975	1972	1971	1968	1968	1956	1936	1918	1907	1887
30.0	1903	1906	1917	1941	1975	1995	2016	2043	2061	2066
35.0	1609	1616	1637	1681	1742	1803	1888	1988	2083	2175
37.5	1469	1477	1498	1546	1600	1666	1765	1882	2012	2154
40.0	1310	1318	1350	1401	1465	1539	1646	1756	1899	2088
42.5	1079	1089	1126	1191	1277	1388	1513	1639	1775	1960
45.0	826	836	864	920	1015	1153	1340	1530	1704	1878
47.5	640	647	672	692	742	861	1039	1282	1562	1817
50.0	522	527	536	550	576	654	755	983	1331	1713
52.5	424	428	435	446	465	497	608	686	1020	1499
55.0	317	324	339	357	372	392	426	581	664	1096
57.5	185	191	211	244	280	306	334	379	574	727
60.0	115	117	124	142	180	223	256	294	350	588
62.5	104	104	105	105	114	146	188	222	258	491
65.0	95	95	96	98	98	107	132	159	190	243
67.5	85	86	87	89	90	93	103	118	141	179
70.0	74	75	77	80	82	86	91	98	111	134
72.5	69	67	67	70	73	76	81	88	93	107
75.0	77	69	59	60	62	66	70	77	80	85
77.5	66	55	49	49	51	55	59	63	68	70
80.0	45	39	36	37	39	41	46	49	52	56
85.0	9	9	9	10	11	12	13	15	16	17
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0.0	1537	1537	1537	1537	1537	1537	1537	1537	1537	1537
5.0	1594	1584	1579	1571	1565	1555	1545	1537	1530	1519
10.0	1638	1625	1615	1600	1590	1574	1556	1542	1530	1514
15.0	1694	1676	1662	1644	1632	1612	1584	1562	1540	1516
20.0	1767	1751	1727	1707	1687	1662	1626	1597	1563	1530
25.0	1870	1845	1819	1798	1768	1729	1689	1653	1612	1563
30.0	2045	2002	1958	1918	1884	1835	1793	1748	1688	1610
35.0	2228	2243	2207	2121	2051	1985	1921	1861	1770	1673
37.5	2273	2341	2345	2279	2156	2074	1999	1925	1829	1725
40.0	2258	2407	2478	2446	2312	2188	2088	1996	1889	1776
42.5	2190	2424	2592	2621	2528	2337	2206	2074	1942	1815
45.0	2082	2358	2629	2774	2683	2540	2334	2184	2028	1884
47.5	2012	2262	2628	2893	2925	2724	2460	2287	2123	1955
50.0	1986	2194	2496	2846	3082	2825	2633	2368	2178	1993
52.5	1948	2191	2401	2797	2939	3115	2745	2448	2229	2018
55.0	1696	2152	2331	2616	2921	3203	2846	2494	2230	2022
57.5	1307	1961	2291	2483	2857	3222	2868	2595	2235	2013
60.0	941	1664	2219	2386	2695	2955	2915	2721	2245	2006
62.5	605	1239	1961	2291	2487	2888	2905	2720	2202	1959
65.0	503	906	1600	2123	2184	2529	2651	2629	2154	1897
67.5	276	603	1134	1714	1866	1999	2367	2286	1975	1711

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CANDELA TABULATION - (Cont.)

70.0	176	322	640	1119	1421	1498	1732	1786	1583	1416
72.5	133	190	326	598	880	1010	1107	1218	1128	1026
75.0	100	130	176	253	381	536	639	667	607	582
77.5	73	89	109	134	176	275	359	328	315	312
80.0	55	65	83	105	148	207	257	216	201	193
85.0	19	23	35	51	57	48	43	41	45	39
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0.0	1537	1537	1537	1537	1537	1537	1537	1537	1537	1537
5.0	1510	1503	1495	1489	1482	1473	1465	1460	1451	1448
10.0	1496	1480	1460	1445	1429	1408	1393	1373	1360	1350
15.0	1490	1461	1429	1397	1369	1338	1310	1277	1252	1228
20.0	1489	1442	1397	1349	1306	1259	1210	1163	1126	1091
25.0	1502	1434	1370	1301	1233	1165	1103	1036	990	950
30.0	1532	1445	1348	1253	1158	1061	983	915	862	821
35.0	1573	1461	1341	1200	1079	959	870	804	758	722
37.5	1604	1477	1338	1187	1046	915	818	752	709	677
40.0	1648	1494	1337	1169	996	868	767	708	669	638
42.5	1685	1529	1350	1146	954	819	723	675	640	601
45.0	1729	1558	1342	1127	930	776	681	659	591	562
47.5	1764	1575	1347	1108	897	742	662	594	550	521
50.0	1811	1609	1351	1091	861	695	646	552	510	487
52.5	1809	1595	1342	1073	833	667	619	514	474	454
55.0	1801	1570	1282	1007	774	645	532	474	442	428
57.5	1803	1540	1256	959	718	620	484	439	413	404
60.0	1762	1504	1206	904	653	587	439	406	387	373
62.5	1760	1501	1175	864	638	493	391	370	357	334
65.0	1699	1454	1152	837	629	421	359	328	314	274
67.5	1571	1353	1056	781	544	398	330	297	262	201
70.0	1301	1112	848	648	480	357	300	261	218	150
72.5	925	766	634	485	348	261	226	212	168	113
75.0	537	483	395	269	201	183	148	136	119	86
77.5	304	286	205	110	101	105	84	78	75	66
80.0	179	157	100	65	61	59	53	52	51	51
85.0	32	30	29	28	28	27	24	24	23	24
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

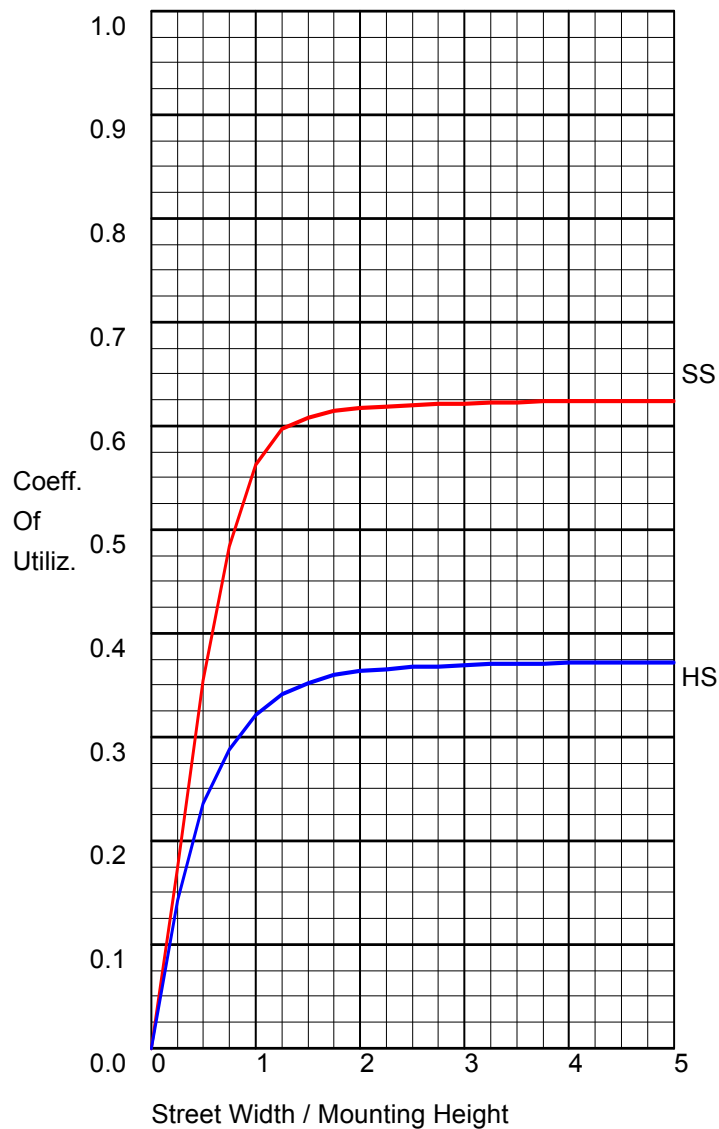
	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	1537	1537	1537	1537	1537	1537	1537
5.0	1441	1439	1432	1428	1425	1426	1428
10.0	1336	1324	1313	1306	1302	1301	1300
15.0	1202	1179	1163	1153	1145	1142	1140
20.0	1060	1026	1007	993	986	980	975
25.0	916	888	866	858	854	848	846
30.0	796	777	756	749	744	739	737
35.0	698	680	662	655	650	647	646
37.5	654	638	622	616	613	611	609
40.0	615	600	588	580	577	576	575
42.5	576	561	550	544	541	540	542
45.0	537	524	516	512	510	510	511
47.5	503	493	486	483	480	480	480

IES ROAD REPORT
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CANDELA TABULATION - (Cont.)

50.0	472	462	458	459	460	460	460
52.5	443	439	440	441	438	432	429
55.0	421	418	410	383	350	330	323
57.5	396	372	326	283	261	245	239
60.0	346	292	237	197	170	163	162
62.5	279	209	158	139	137	136	136
65.0	196	135	122	121	117	114	113
67.5	136	108	109	107	104	102	103
70.0	98	95	97	98	97	97	96
72.5	86	84	87	89	90	92	91
75.0	78	75	75	79	83	87	84
77.5	67	66	65	67	73	76	72
80.0	54	56	55	54	58	59	57
85.0	25	29	32	33	33	30	28
90.0	0	0	0	0	0	0	0

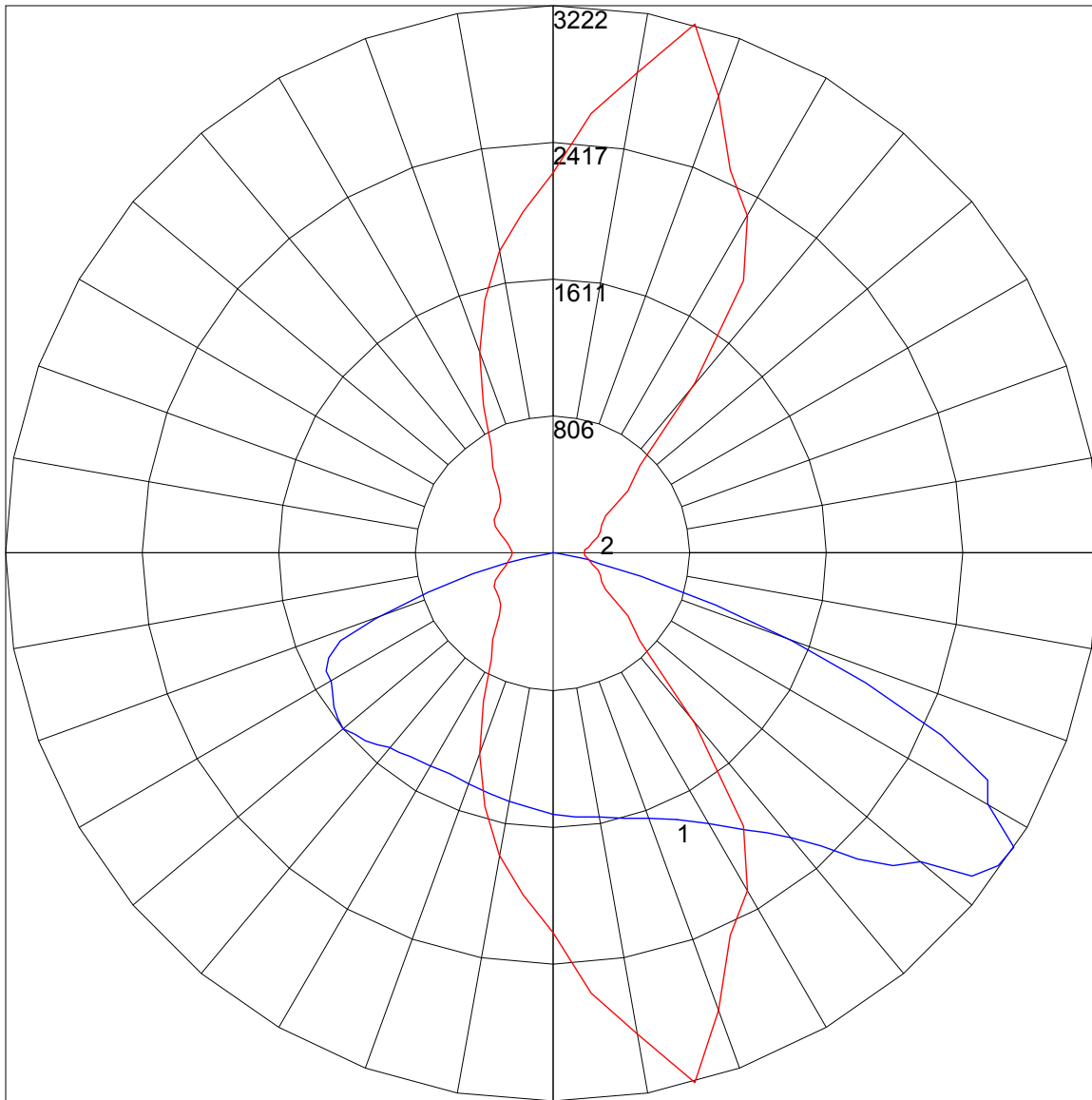
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

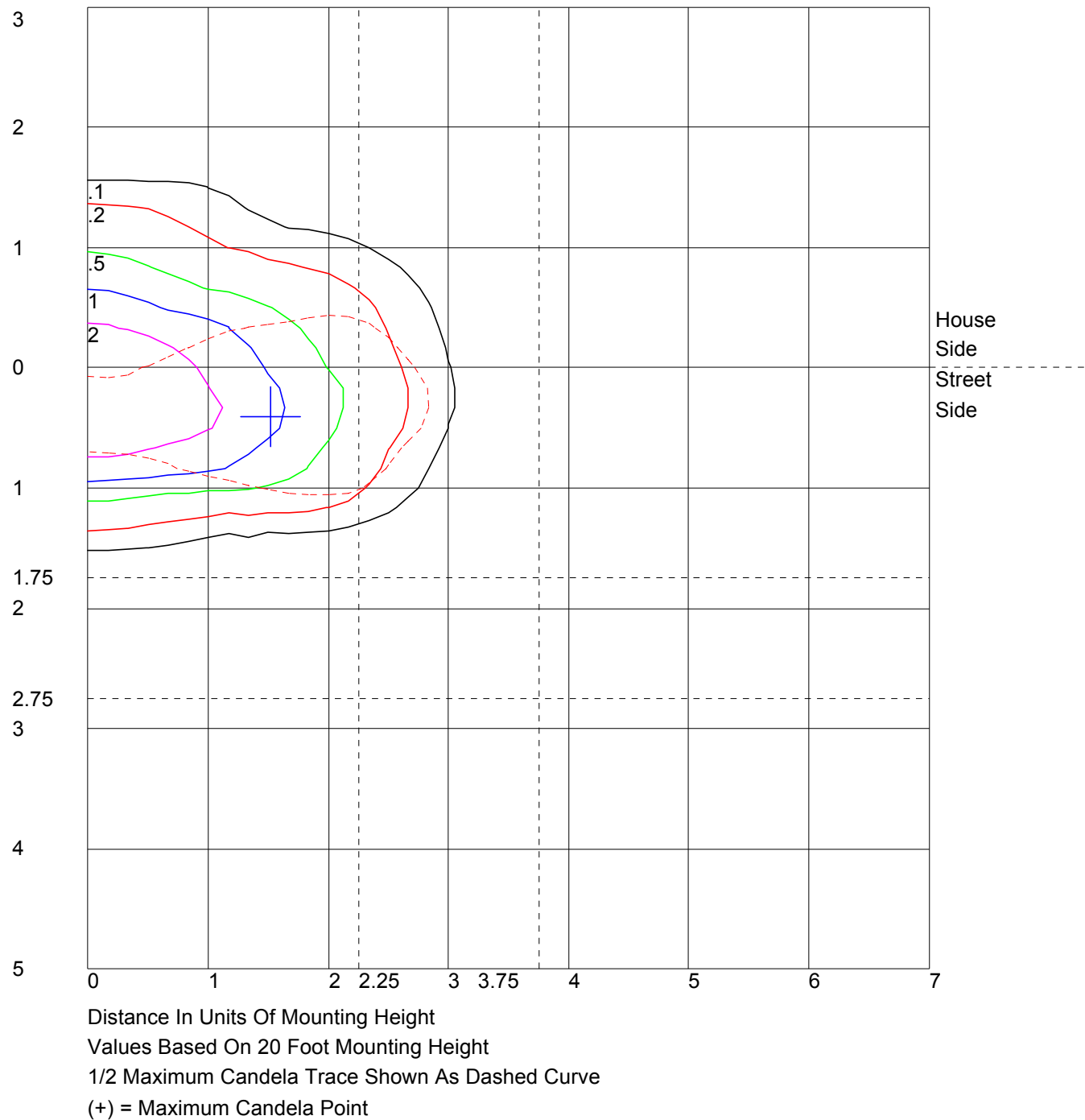
	Lumens	Percent Of Luminaire
Downward Street Side	3310.2	62.6
Downward House Side	1980.1	37.4
Downward Total	5290.3	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	5290.3	100.0

POLAR GRAPH

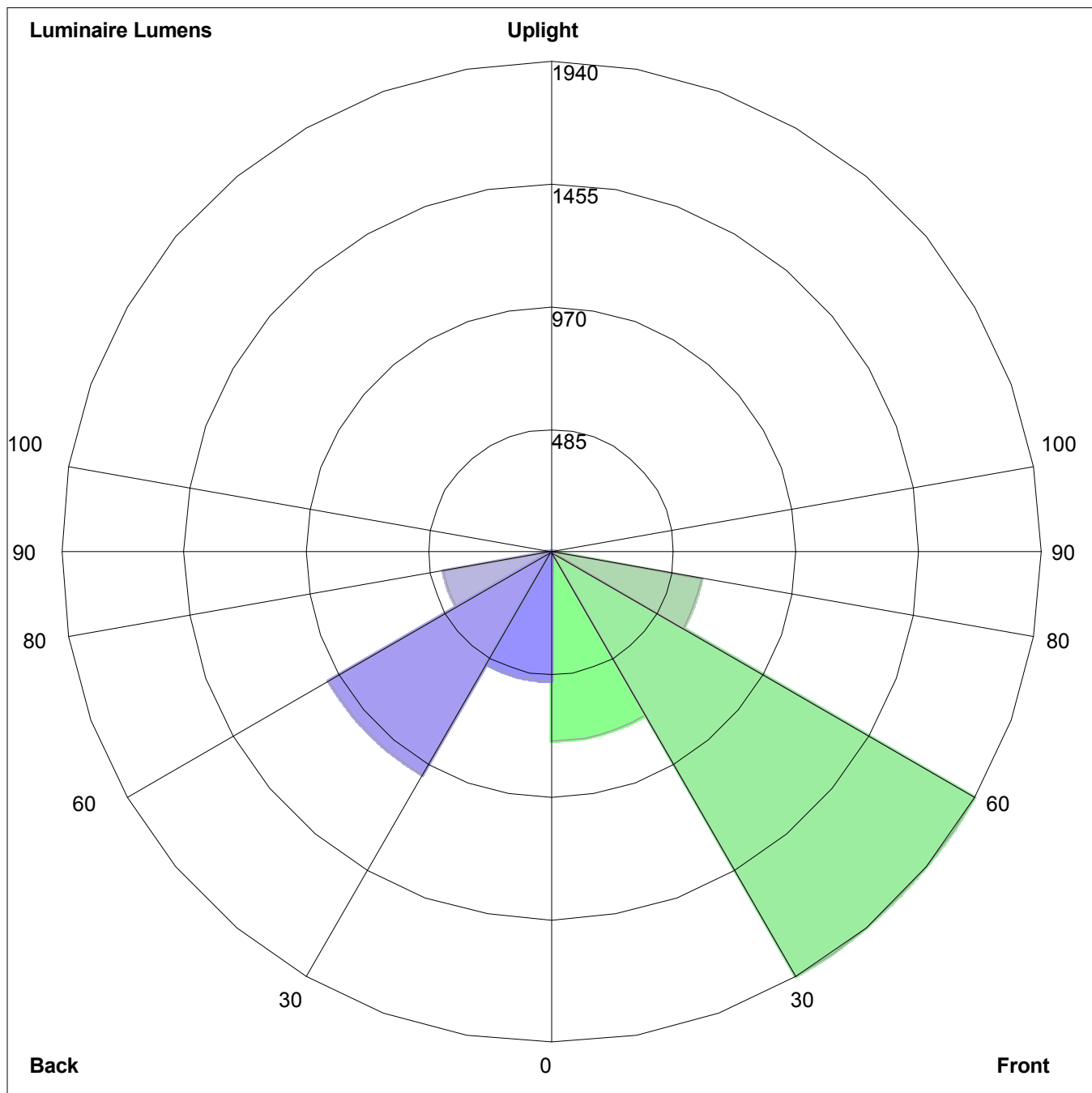


Maximum Candela = 3222 Located At Horizontal Angle = 75, Vertical Angle = 57.5
1 - Vertical Plane Through Horizontal Angles (75 - 255) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (57.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=746.9, Medium=1940.3, High=603.6, Very High=19.4
Back: Low=510.3, Medium=1017.8, High=432.8, Very High=19.2
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G1