



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

Report No: L062014314



Report No: L062014314

Issue Date: 7/24/2020

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

Model Number: RS30-T3/30W/3000K

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: 7/20/20 - 7/24/20

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-T3/30W/3000K
Driver Model Number:	N/A

Test Summary

Total Lumens:	4878.40
Efficacy:	162.13
Color Redering Index:	72.0
Correlated Color Temperature:	2928
Input Voltage (VDC):	22.21
Input Current (Amp):	1.3550
Input Power (W):	30.09
Input Power Factor:	1.0000
Current ATHD (%):	N/A

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:00

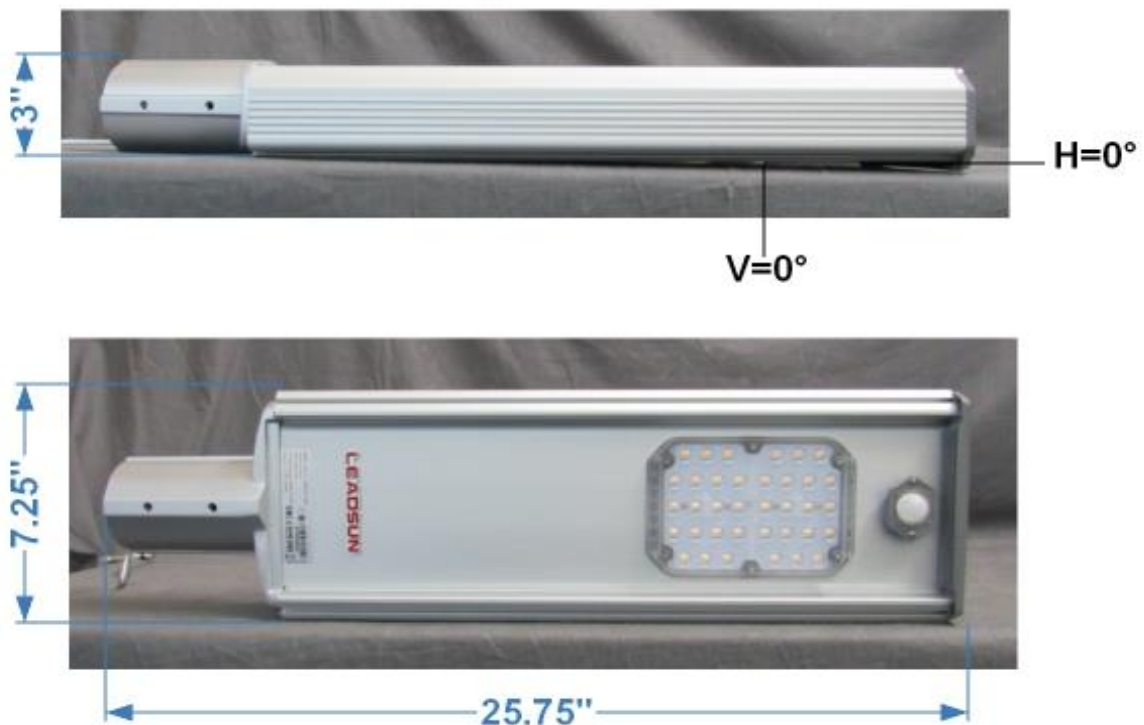
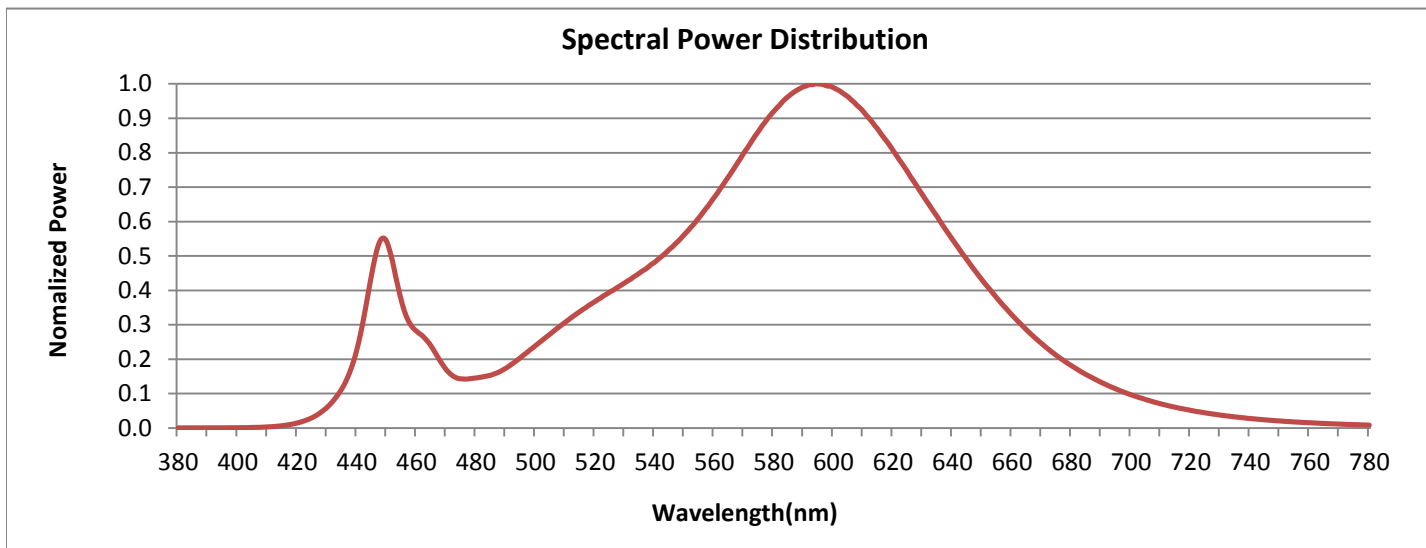


FIG. 1 LUMINAIRE

Colorimetry Test Results

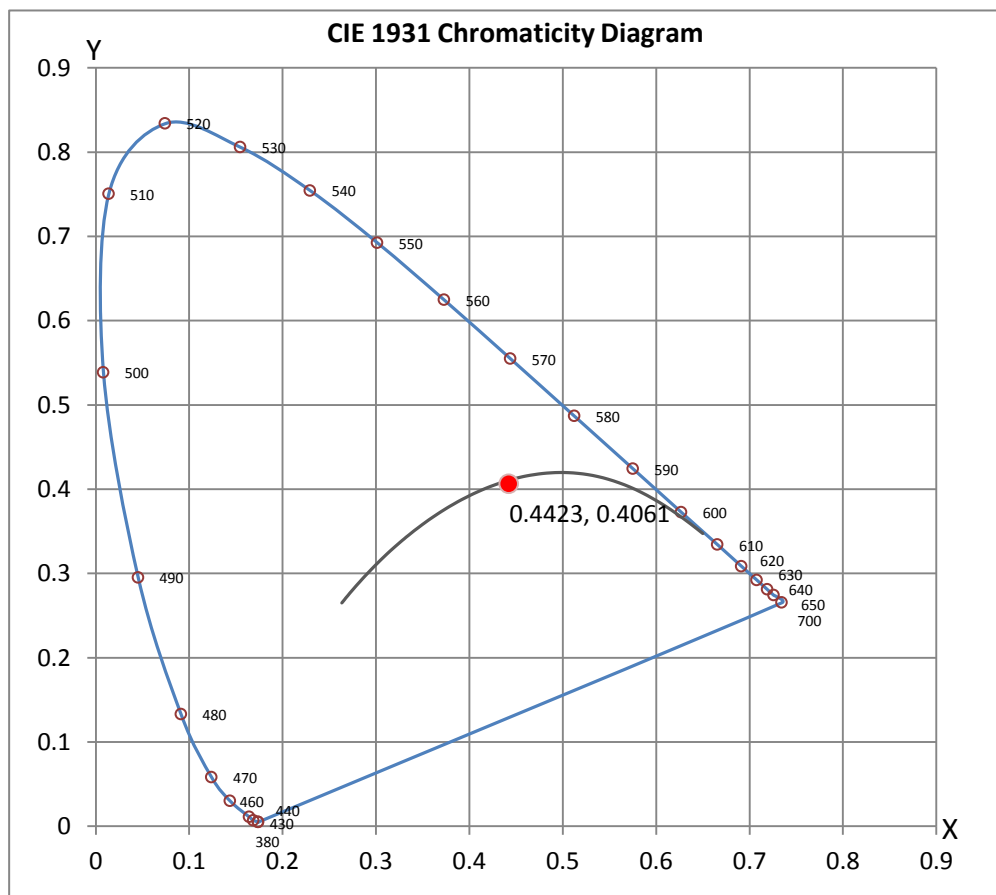


CRI & CCT

x	0.4423
y	0.4061
u'	0.2532
v'	0.5230
CRI	72.00
CCT	2928
Duv	0.00010

R Values

R1	67.92
R2	84.43
R3	94.12
R4	66.99
R5	68.42
R6	80.12
R7	74.86
R8	39.18
R9	-37.70
R10	65.94
R11	62.65
R12	57.52
R13	71.25
R14	97.07
R15	58.97





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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 : L062014314.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] L062014314

[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)

[ISSUEDATE] 7/24/2020

[MANUFAC] Leadsun Inc

[LUMCAT] RS30-T3/30W/3000K

[LUMINAIRE] 30W 3000K luminaire with 36 chips and T3 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] 22.21VDC, 30.09W

[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	4878
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	162
Total Luminaire Watts	30.09
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	2320
Maximum Candela Angle	70H 47.5V
Maximum Candela (<90 Degrees Vertical)	2320
Maximum Candela Angle (<90 Degrees Vertical)	70H 47.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	110 (2.3% 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)	698.3	N.A.	14.3
FM - Front-Medium (30-60)	1802.6	N.A.	36.9
FH - Front-High (60-80)	487.1	N.A.	10.0
FVH - Front-Very High (80-90)	15.4	N.A.	0.3
BL - Back-Low (0-30)	513.2	N.A.	10.5
BM - Back-Medium (30-60)	1016.2	N.A.	20.8
BH - Back-High (60-80)	329.8	N.A.	6.8
BVH - Back-Very High (80-90)	15.9	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	4878.5	N.A.	100.0
BUG Rating	B2-U0-G1		

ZONAL LUMEN SUMMARY

Zone	%
0-20	11.1
0-30	24.8
0-40	43.2
0-60	82.6
0-80	99.4
0-90	100
10-90	97.2
20-40	32.2
20-50	52.9
40-70	51.9
60-80	16.7
70-80	4.2
80-90	0.6
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	1424	1424	1424	1424	1424	1424	1424	1424	1424	1424
5.0	1536	1537	1539	1535	1532	1531	1528	1523	1514	1508
10.0	1584	1585	1588	1585	1578	1576	1577	1571	1560	1554
15.0	1624	1626	1629	1627	1617	1613	1615	1609	1601	1597
20.0	1719	1719	1722	1721	1711	1699	1693	1681	1665	1657
25.0	1752	1754	1756	1762	1764	1765	1769	1773	1773	1766
30.0	1723	1725	1728	1744	1762	1786	1809	1839	1865	1888
35.0	1565	1569	1585	1607	1640	1690	1750	1825	1889	1949
37.5	1458	1466	1482	1504	1541	1598	1673	1764	1860	1942
40.0	1345	1352	1368	1391	1429	1486	1569	1671	1791	1915
42.5	1237	1242	1256	1284	1325	1377	1448	1548	1682	1830
45.0	1121	1125	1139	1174	1224	1281	1351	1445	1584	1739
47.5	1002	1005	1023	1058	1111	1172	1250	1350	1481	1630
50.0	869	877	899	934	996	1065	1153	1257	1395	1522
52.5	714	725	747	784	844	921	1026	1165	1316	1439
55.0	557	563	581	614	664	749	867	1027	1179	1308
57.5	432	434	441	461	501	572	681	821	983	1146
60.0	346	348	351	359	380	422	503	611	764	951
62.5	281	282	287	292	303	326	363	423	539	727
65.0	228	229	234	240	248	263	279	318	398	524
67.5	176	179	185	193	200	209	226	258	309	389
70.0	127	132	142	150	157	162	178	205	247	301
72.5	101	103	109	118	126	132	144	164	194	239
75.0	83	85	89	95	102	109	118	130	149	174
77.5	64	67	69	73	80	87	93	101	109	117
80.0	44	47	49	52	56	63	66	69	73	74
85.0	6	6	6	7	8	9	10	12	14	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	1424	1424	1424	1424	1424	1424	1424	1424	1424	1424
5.0	1502	1495	1489	1481	1471	1462	1453	1440	1432	1417
10.0	1547	1540	1533	1519	1507	1494	1483	1467	1447	1422
15.0	1589	1579	1573	1559	1546	1532	1518	1498	1464	1433
20.0	1644	1633	1628	1618	1606	1596	1581	1553	1504	1468
25.0	1741	1720	1710	1702	1694	1690	1674	1642	1594	1546
30.0	1894	1892	1873	1841	1809	1778	1741	1693	1629	1564
35.0	1999	2030	2034	2007	1948	1881	1814	1732	1642	1549
37.5	2017	2074	2107	2104	2051	1970	1883	1792	1683	1567
40.0	2016	2104	2174	2195	2166	2075	1961	1848	1717	1583
42.5	1989	2112	2219	2264	2263	2174	2036	1888	1731	1570
45.0	1910	2070	2220	2303	2313	2247	2093	1923	1745	1564
47.5	1800	1983	2167	2288	2320	2272	2118	1935	1720	1540
50.0	1667	1850	2053	2223	2285	2275	2156	1930	1701	1501
52.5	1551	1688	1894	2115	2235	2256	2172	1938	1702	1486
55.0	1424	1539	1717	1971	2166	2199	2136	1909	1690	1468
57.5	1305	1433	1571	1810	2057	2132	2081	1854	1648	1448
60.0	1143	1308	1434	1625	1937	2055	1991	1804	1600	1423
62.5	939	1143	1282	1457	1744	1927	1855	1647	1467	1323
65.0	719	938	1085	1209	1452	1690	1652	1453	1287	1181
67.5	521	699	850	955	1154	1351	1342	1204	1066	986

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CANDELA TABULATION - (Cont.)

70.0	393	509	617	672	792	936	947	860	751	706
72.5	299	365	415	452	508	586	580	525	457	451
75.0	209	241	263	279	310	327	308	281	265	272
77.5	132	151	168	177	188	185	174	168	168	165
80.0	78	90	102	108	110	106	103	103	103	97
85.0	19	22	24	26	27	28	27	27	27	26
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	1424	1424	1424	1424	1424	1424	1424	1424	1424	1424
5.0	1404	1394	1387	1375	1364	1359	1349	1338	1331	1325
10.0	1400	1380	1365	1343	1327	1312	1299	1280	1272	1260
15.0	1405	1376	1343	1317	1293	1265	1245	1222	1210	1194
20.0	1429	1385	1337	1299	1263	1225	1198	1170	1147	1126
25.0	1495	1432	1364	1308	1250	1192	1148	1112	1075	1050
30.0	1502	1421	1348	1280	1209	1145	1081	1039	997	965
35.0	1466	1380	1298	1215	1125	1056	996	950	912	886
37.5	1461	1367	1282	1194	1101	1020	954	905	868	842
40.0	1458	1360	1275	1183	1085	986	913	864	829	801
42.5	1445	1350	1265	1173	1061	959	882	829	787	751
45.0	1436	1335	1241	1143	1033	925	842	780	728	696
47.5	1407	1309	1215	1112	993	872	789	721	678	642
50.0	1372	1275	1179	1063	933	810	724	666	618	583
52.5	1337	1236	1142	1012	869	734	649	587	554	526
55.0	1314	1198	1096	946	783	650	563	521	491	470
57.5	1295	1172	1066	897	705	568	492	454	432	414
60.0	1270	1120	997	823	648	516	441	397	370	359
62.5	1188	1040	909	734	570	464	394	350	320	303
65.0	1078	930	795	638	492	404	344	304	274	256
67.5	901	765	644	524	425	352	298	259	237	221
70.0	682	599	504	428	348	288	247	223	203	188
72.5	466	420	352	304	254	221	200	180	163	148
75.0	282	249	212	189	170	157	145	135	126	117
77.5	164	149	131	118	110	97	92	91	91	89
80.0	92	85	78	73	68	63	62	61	62	63
85.0	26	25	24	24	23	23	23	23	22	23
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

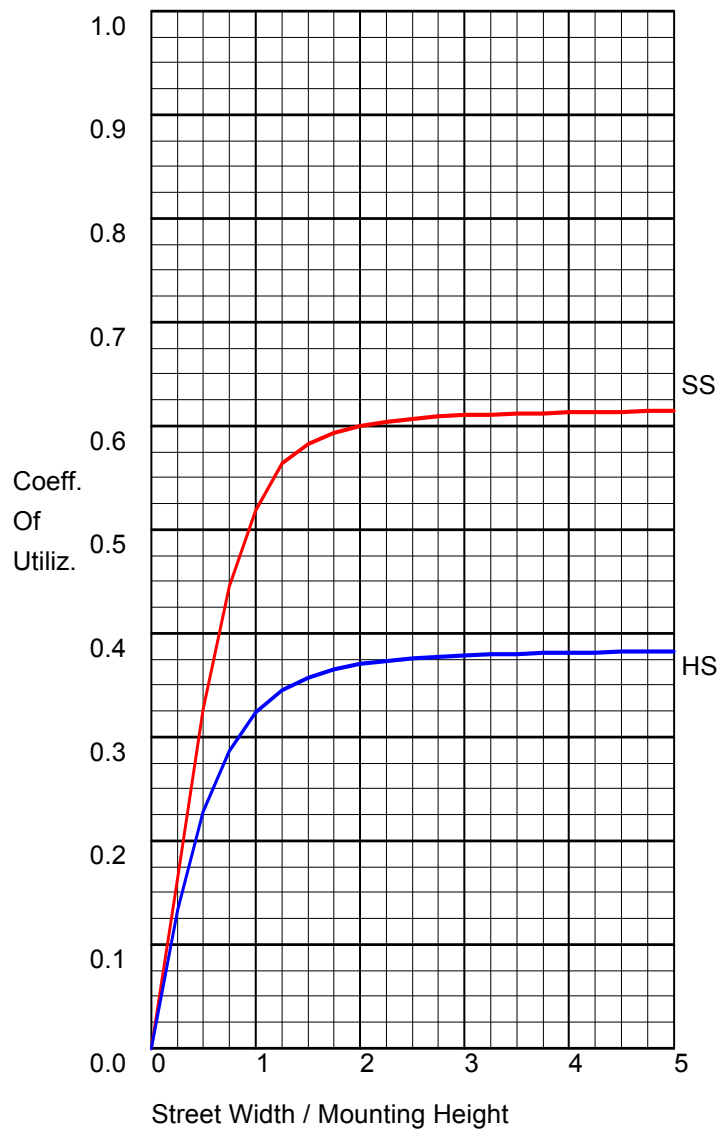
	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	1424	1424	1424	1424	1424	1424	1424
5.0	1322	1320	1314	1309	1305	1302	1301
10.0	1255	1248	1238	1230	1226	1223	1219
15.0	1184	1173	1162	1155	1151	1148	1146
20.0	1112	1098	1085	1078	1075	1070	1068
25.0	1027	1013	998	991	987	983	980
30.0	938	923	916	909	904	903	902
35.0	864	847	840	834	826	826	825
37.5	820	803	794	786	778	776	774
40.0	774	752	740	735	732	730	729
42.5	720	703	693	686	681	678	675
45.0	670	650	636	630	626	625	623
47.5	615	596	585	577	573	571	570

IES ROAD REPORT
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CANDELA TABULATION - (Cont.)

50.0	560	544	531	522	517	513	511
52.5	505	489	476	467	460	456	454
55.0	449	433	421	412	406	402	401
57.5	396	380	367	359	353	348	347
60.0	346	333	320	312	305	301	299
62.5	295	288	281	275	270	267	265
65.0	251	251	247	241	237	233	231
67.5	212	211	210	202	194	185	182
70.0	174	163	161	152	131	114	112
72.5	138	129	121	108	99	95	93
75.0	110	103	95	87	82	79	78
77.5	87	83	76	70	69	68	67
80.0	63	62	58	56	55	54	53
85.0	23	23	23	25	27	28	28
90.0	0	0	0	0	0	0	0

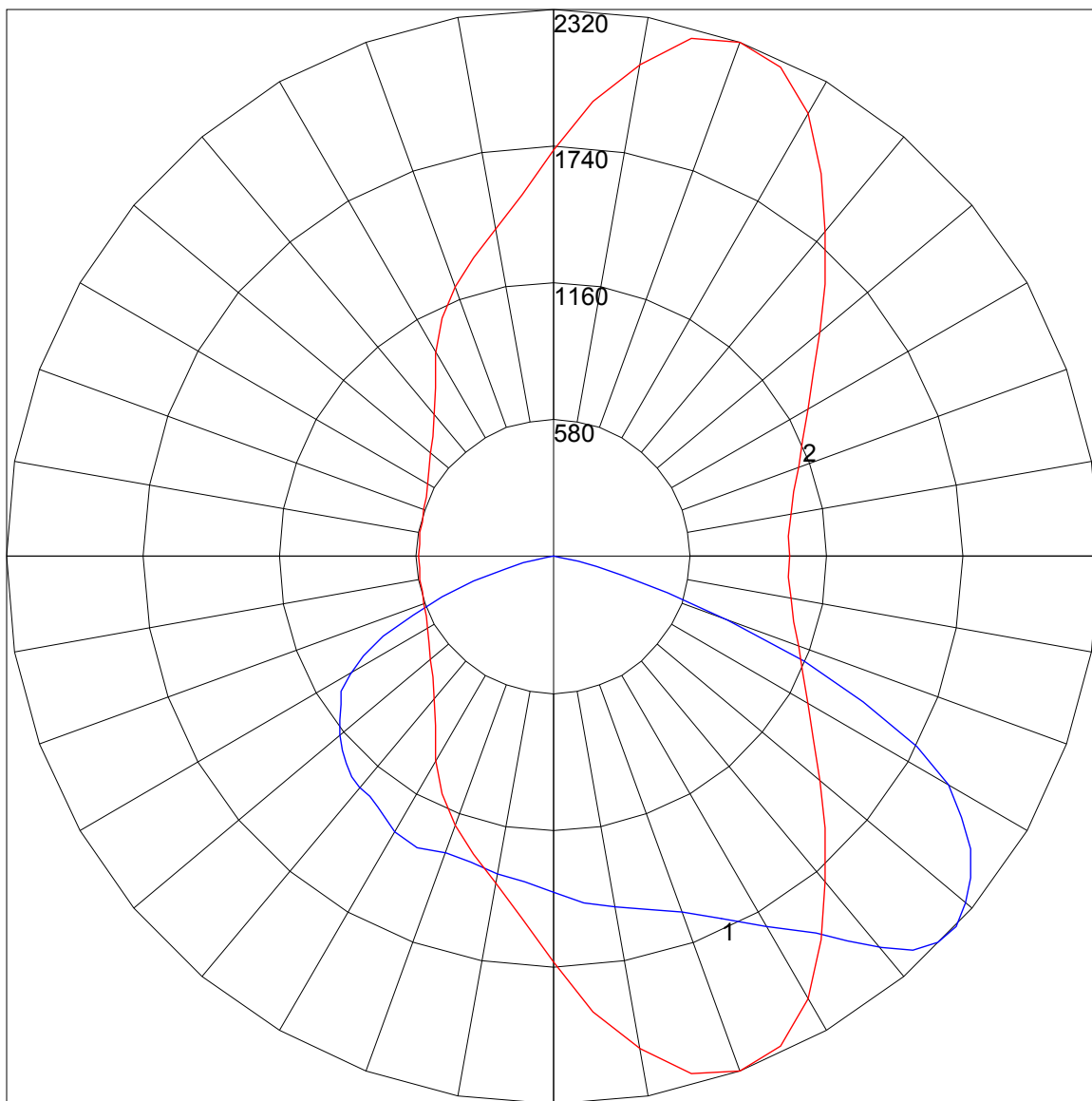
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

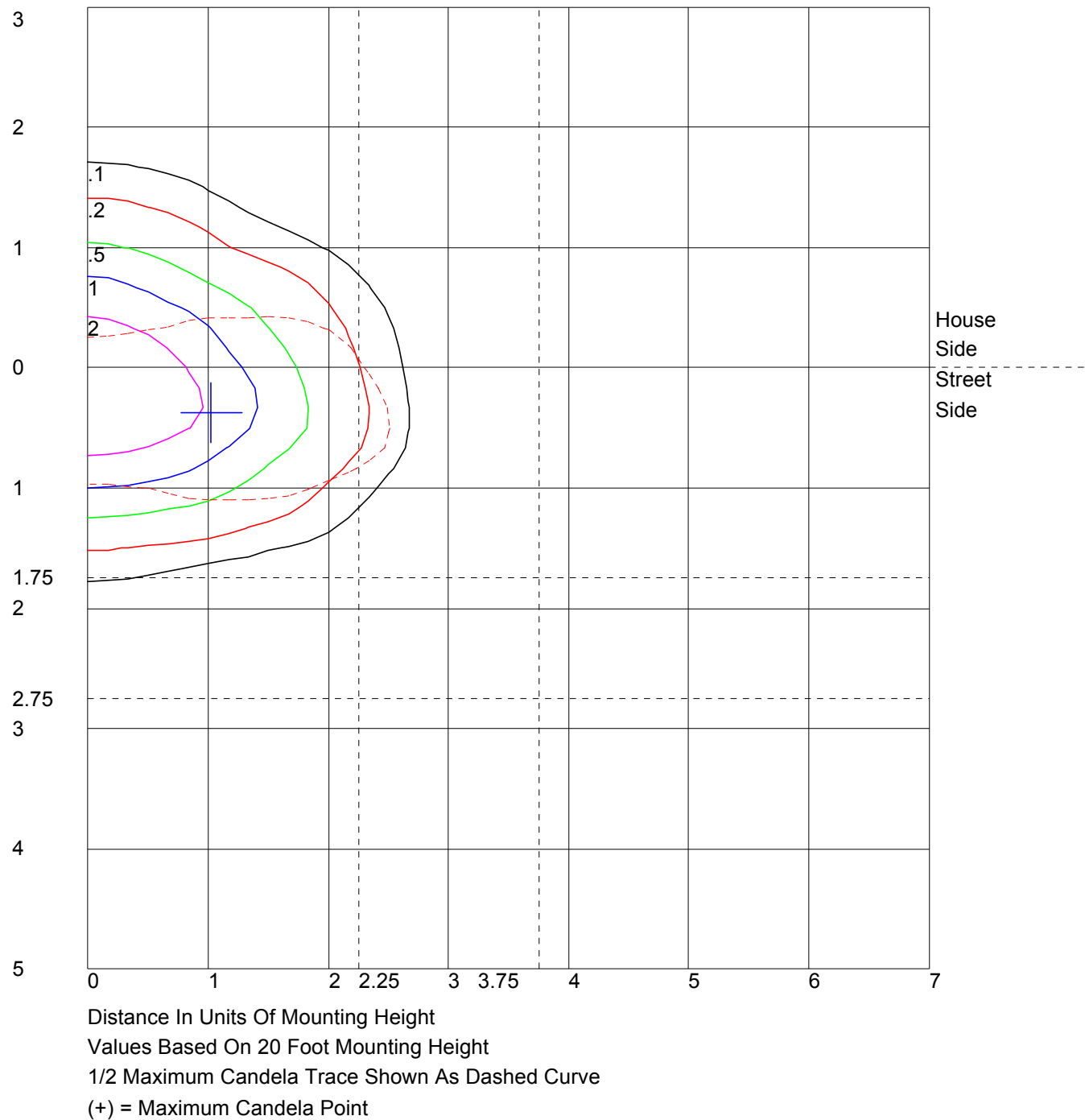
	Lumens	Percent Of Luminaire
Downward Street Side	3003.3	61.6
Downward House Side	1875.1	38.4
Downward Total	4878.4	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	4878.4	100.0

POLAR GRAPH

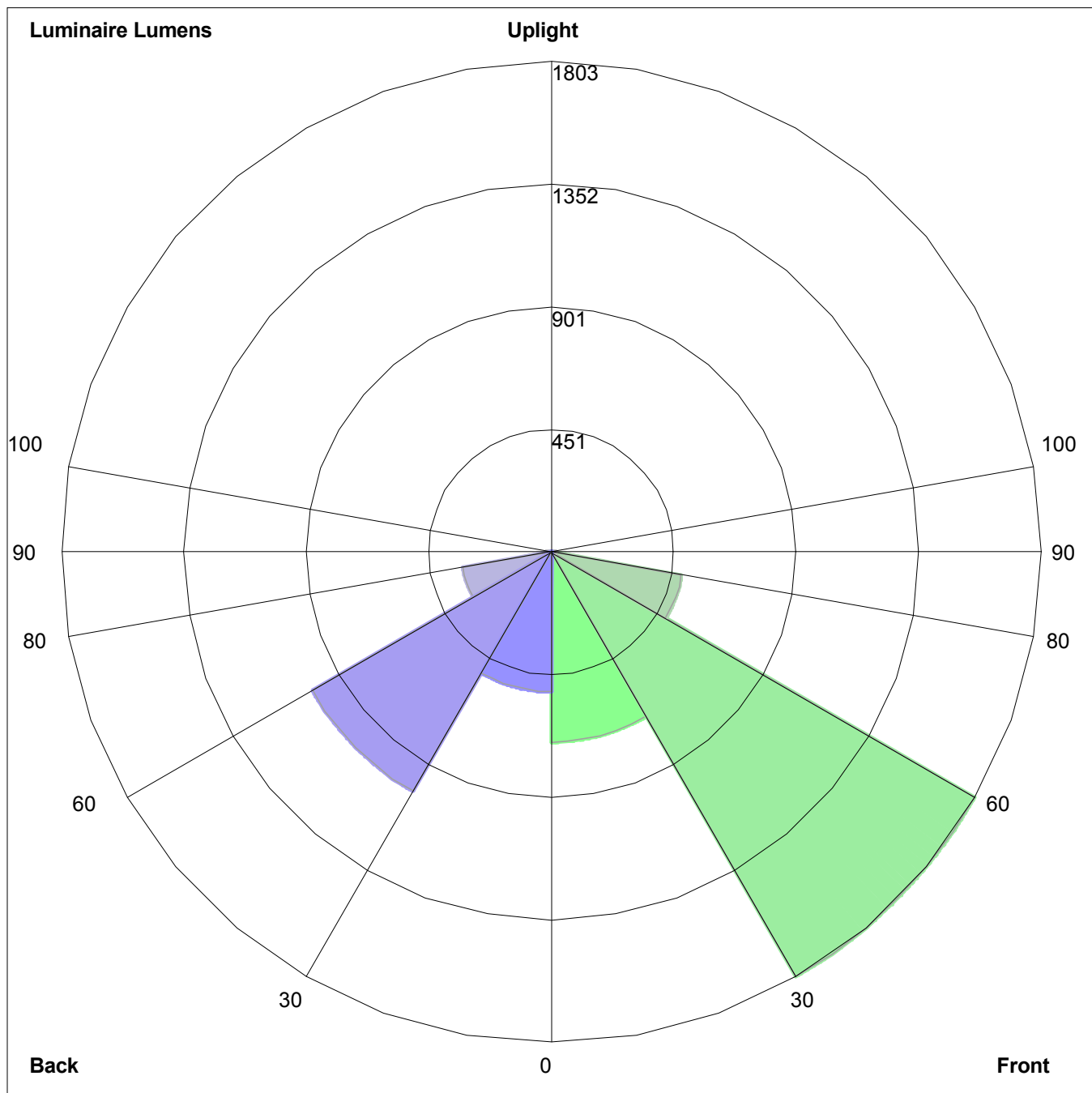


Maximum Candela = 2320 Located At Horizontal Angle = 70, Vertical Angle = 47.5
1 - Vertical Plane Through Horizontal Angles (70 - 250) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (47.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=698.3, Medium=1802.6, High=487.1, Very High=15.4
Back: Low=513.2, Medium=1016.2, High=329.8, Very High=15.9
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G1