



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

Report No: L062014313



Report No: L062014313

Issue Date: 7/24/2020

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

Model Number: RS30-T3/30W/4000K/8°

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/4000K/8°
Driver Model Number:	N/A

Test Summary

Total Lumens:	4941.30
Efficacy:	163.94
Color Redering Index:	71.7
Correlated Color Temperature:	3779
Input Voltage (VDC):	22.24
Input Current (Amp):	1.3559
Input Power (W):	30.14
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

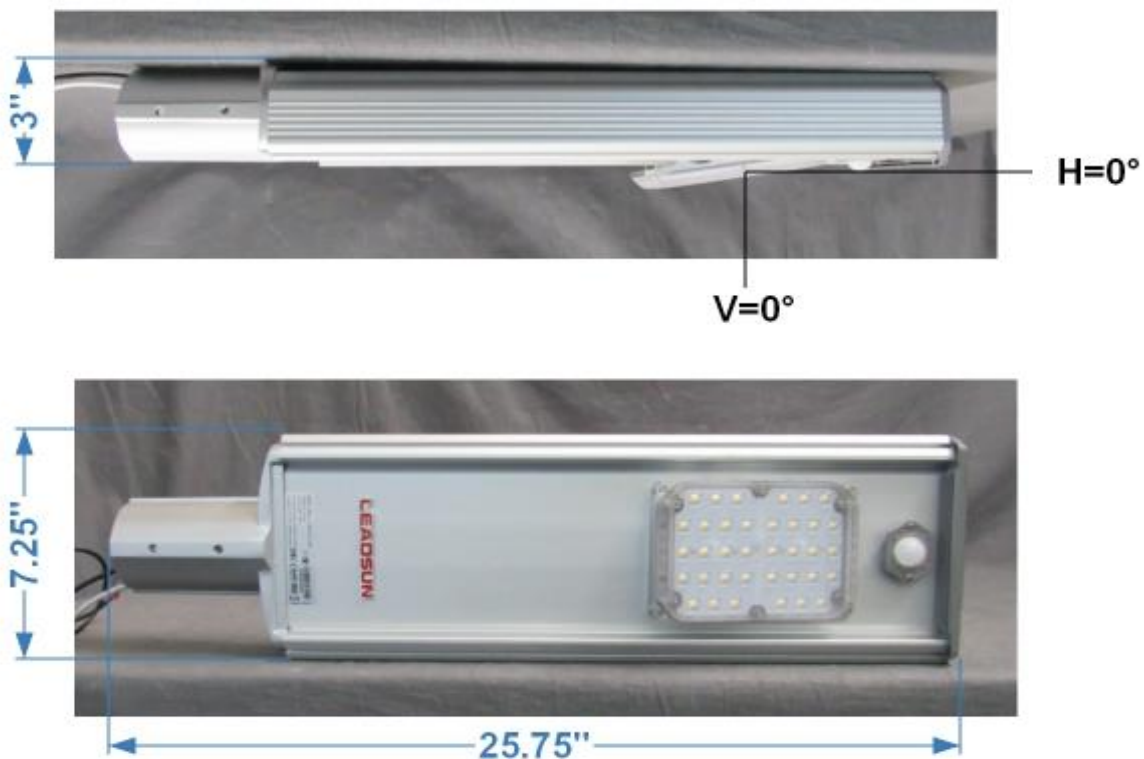
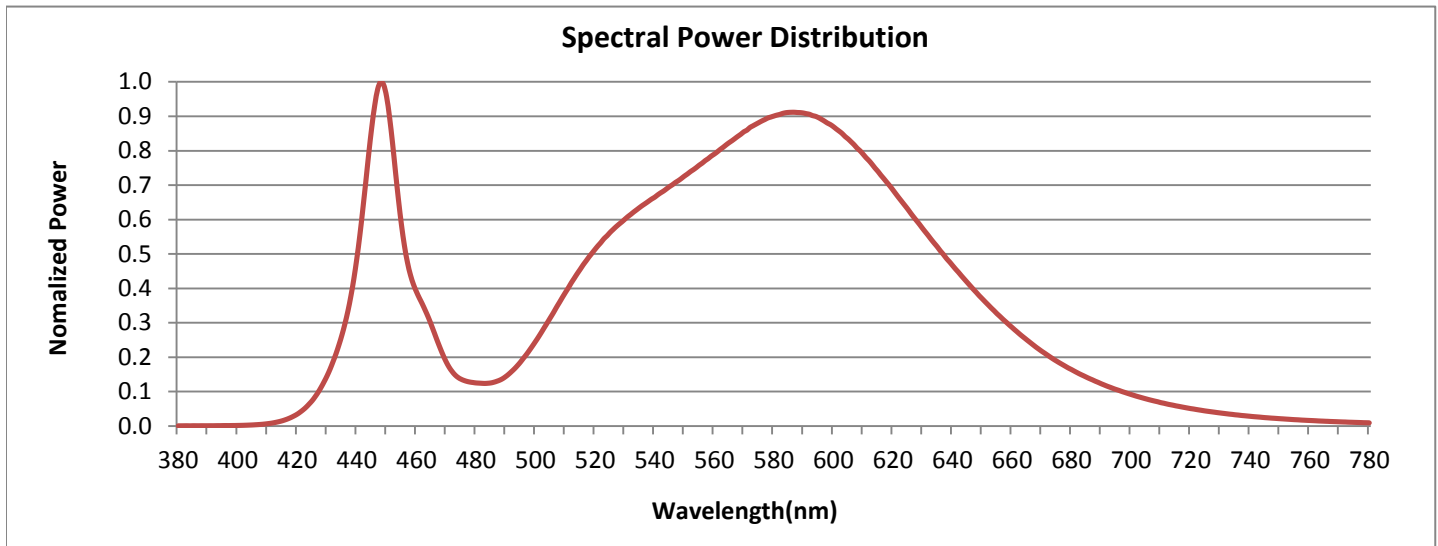


FIG. 1 LUMINAIRE

Colorimetry Test Results

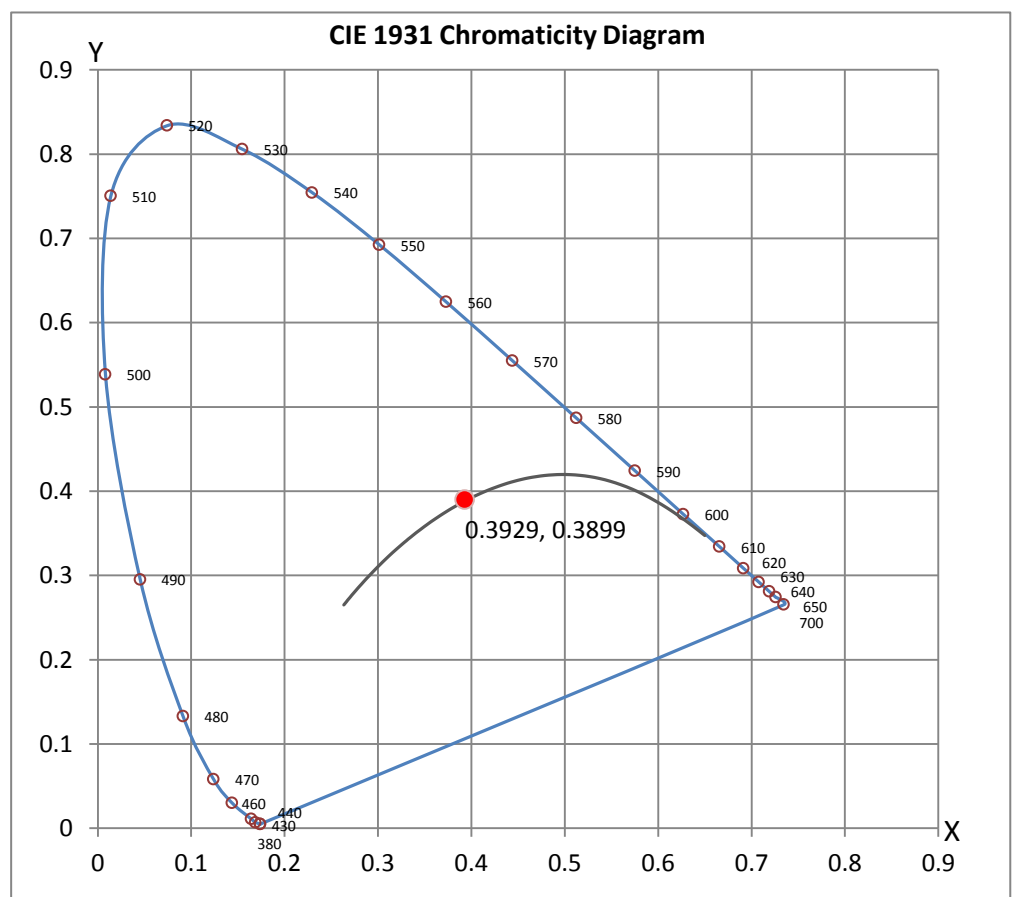


CRI & CCT

x	0.3929
y	0.3899
u'	0.2280
v'	0.5091
CRI	71.70
CCT	3779
Duv	0.00260

R Values

R1	68.07
R2	78.97
R3	88.06
R4	70.39
R5	67.62
R6	70.34
R7	80.76
R8	49.57
R9	-33.81
R10	50.65
R11	65.66
R12	41.57
R13	69.84
R14	92.98
R15	61.18





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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: 14*



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Photometric Test Report

IES ROAD REPORT

PHOTOMETRIC FILENAME : L062014313.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L062014313
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 7/24/2020
[MANUFAC] Leadsun Inc
[LUMCAT] RS30-T3/30W/4000K/8°
[LUMINAIRE] 30W 4000K luminaire with 36 chips, T3 lens and 8 degree LED module base
[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] 22.24VDC, 30.14W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4941
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	164
Total Luminaire Watts	30.14
Ballast Factor	1.00
Upward Waste Light Ratio	0.01
Maximum Candela	2247
Maximum Candela Angle	60H 47.5V
Maximum Candela (<90 Degrees Vertical)	2247
Maximum Candela Angle (<90 Degrees Vertical)	60H 47.5V
Maximum Candela At 90 Degrees Vertical	60 (1.2% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	239 (4.8% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	655.2	N.A.	13.3
FM - Front-Medium (30-60)	1947.3	N.A.	39.4
FH - Front-High (60-80)	693.0	N.A.	14.0
FVH - Front-Very High (80-90)	49.2	N.A.	1.0
BL - Back-Low (0-30)	466.0	N.A.	9.4
BM - Back-Medium (30-60)	835.5	N.A.	16.9
BH - Back-High (60-80)	223.2	N.A.	4.5
BVH - Back-Very High (80-90)	22.9	N.A.	0.5
UL - Uplight-Low (90-100)	24.5	N.A.	0.5
UH - Uplight-High (100-180)	24.6	N.A.	0.5
Total	4941.4	N.A.	100.0
BUG Rating	B1-U2-G1		

ZONAL LUMEN SUMMARY

Zone	%
0-20	10.2
0-30	22.7
0-40	39.8
0-60	79
0-80	97.5
0-90	99
10-90	96.4
20-40	29.7
20-50	49.8
40-70	52.6
60-80	18.5
70-80	5.1
80-90	1.5
90-110	0.8
90-120	0.9
90-130	1
90-150	1
90-180	1
110-180	0.2
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	1335	1335	1335	1335	1335	1335	1335	1335	1335	1335
5.0	1444	1444	1446	1440	1434	1433	1431	1427	1416	1409
10.0	1504	1504	1506	1501	1494	1491	1487	1483	1472	1463
15.0	1560	1560	1560	1555	1548	1545	1543	1538	1526	1516
20.0	1616	1616	1618	1615	1606	1601	1596	1590	1578	1567
25.0	1700	1700	1701	1694	1683	1673	1665	1656	1642	1632
30.0	1769	1771	1776	1777	1776	1773	1770	1764	1748	1730
35.0	1773	1775	1783	1789	1800	1817	1837	1861	1869	1875
37.5	1750	1751	1761	1773	1792	1817	1847	1886	1914	1938
40.0	1688	1692	1705	1725	1759	1799	1844	1894	1938	1988
42.5	1607	1612	1626	1648	1686	1737	1804	1875	1943	2017
45.0	1508	1514	1529	1555	1597	1656	1735	1828	1928	2014
47.5	1397	1402	1416	1445	1486	1548	1633	1737	1860	1986
50.0	1288	1292	1311	1339	1378	1438	1528	1638	1768	1915
52.5	1176	1180	1200	1232	1271	1332	1421	1524	1656	1812
55.0	1001	1007	1026	1059	1100	1164	1244	1342	1451	1581
57.5	878	885	905	938	983	1058	1151	1261	1364	1448
60.0	729	738	756	789	839	909	1008	1141	1245	1331
62.5	579	582	597	622	667	742	855	973	1082	1180
65.0	454	456	461	473	508	565	657	766	910	1033
67.5	351	351	357	361	383	420	477	562	696	848
70.0	282	282	289	292	300	318	339	401	500	620
72.5	229	230	233	236	242	248	259	295	364	457
75.0	178	181	182	184	190	189	203	231	269	330
77.5	134	137	142	146	149	152	164	187	215	256
80.0	98	99	105	111	115	121	129	146	167	191
85.0	49	50	52	55	59	65	71	75	80	85
90.0	9	9	9	10	12	14	17	20	25	31
95.0	4	4	4	5	6	6	9	11	14	18
100.0	4	4	4	4	4	4	7	9	11	13
105.0	3	3	3	3	4	4	4	6	7	9
110.0	3	3	3	3	3	3	4	4	4	5
115.0	3	3	3	3	3	3	3	3	4	4
120.0	3	3	3	3	3	3	3	3	3	4
125.0	2	2	2	2	2	3	3	3	3	3
130.0	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
180.0	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	1335	1335	1335	1335	1335	1335	1335	1335	1335	1335
5.0	1404	1397	1388	1385	1371	1362	1352	1344	1334	1321
10.0	1452	1444	1428	1419	1400	1387	1369	1354	1334	1317

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CANDELA TABULATION - (Cont.)

15.0	1503	1495	1477	1464	1441	1419	1394	1368	1338	1316
20.0	1556	1547	1530	1515	1492	1466	1433	1396	1359	1324
25.0	1619	1613	1599	1587	1563	1534	1498	1449	1401	1351
30.0	1712	1701	1689	1674	1646	1608	1565	1497	1430	1370
35.0	1868	1853	1823	1788	1739	1683	1621	1543	1461	1382
37.5	1954	1950	1920	1873	1814	1741	1663	1573	1480	1390
40.0	2029	2049	2028	1977	1903	1807	1706	1596	1491	1397
42.5	2085	2130	2129	2090	2000	1868	1740	1607	1488	1384
45.0	2108	2183	2207	2180	2078	1933	1782	1627	1490	1373
47.5	2110	2212	2247	2233	2146	1983	1807	1621	1472	1346
50.0	2051	2183	2246	2246	2183	2025	1825	1632	1460	1329
52.5	1954	2099	2205	2226	2199	2067	1844	1635	1461	1321
55.0	1705	1888	2031	2100	2108	2022	1786	1568	1397	1261
57.5	1555	1714	1912	2024	2050	2002	1779	1552	1376	1221
60.0	1418	1552	1746	1915	1971	1928	1752	1518	1332	1191
62.5	1283	1399	1586	1789	1897	1840	1680	1434	1251	1094
65.0	1161	1281	1417	1611	1775	1707	1555	1317	1148	1002
67.5	1000	1137	1234	1386	1547	1515	1343	1124	967	821
70.0	777	923	1000	1090	1229	1225	1054	847	692	587
72.5	584	704	756	788	870	843	728	562	445	400
75.0	407	494	511	515	556	524	436	343	301	282
77.5	303	337	347	348	359	325	273	236	213	191
80.0	212	228	235	239	230	211	186	166	151	130
85.0	92	100	106	105	103	100	94	88	81	74
90.0	38	44	50	55	59	60	60	58	56	52
95.0	22	26	29	32	35	36	37	37	37	35
100.0	16	18	20	23	25	26	26	26	26	26
105.0	11	13	15	17	18	19	20	21	21	20
110.0	7	9	10	12	13	14	15	16	16	16
115.0	4	5	6	7	9	10	11	11	11	11
120.0	4	4	5	5	6	6	7	7	8	8
125.0	4	4	4	5	5	6	6	6	7	7
130.0	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal 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	1335	1335	1335	1335	1335	1335	1335	1335	1335	1335
5.0	1312	1302	1294	1284	1274	1266	1256	1253	1242	1237
10.0	1300	1282	1266	1249	1234	1218	1203	1195	1183	1171
15.0	1292	1266	1242	1214	1191	1168	1149	1135	1121	1103
20.0	1292	1254	1219	1183	1151	1118	1090	1068	1048	1027
25.0	1301	1250	1199	1148	1104	1062	1024	991	969	950
30.0	1305	1244	1178	1109	1044	993	953	920	894	872
35.0	1309	1224	1141	1060	985	924	877	841	802	769
37.5	1313	1231	1140	1049	964	888	834	788	751	721

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CANDELA TABULATION - (Cont.)

40.0	1316	1230	1121	1023	931	854	788	738	703	665
42.5	1303	1211	1104	995	894	801	736	685	641	610
45.0	1278	1179	1073	956	846	742	678	622	582	553
47.5	1251	1157	1040	914	765	669	600	558	526	497
50.0	1229	1128	1001	856	693	590	534	500	468	442
52.5	1210	1103	965	798	648	528	472	433	408	387
55.0	1165	1057	911	717	556	466	412	373	345	323
57.5	1102	986	823	632	498	409	352	313	280	258
60.0	1056	914	731	559	448	360	307	265	239	219
62.5	948	794	642	486	392	318	264	231	207	189
65.0	853	686	537	417	334	268	223	193	171	148
67.5	690	546	427	334	264	210	182	155	135	119
70.0	501	393	314	240	191	159	134	119	106	95
72.5	353	274	215	171	140	111	95	86	80	74
75.0	239	185	148	120	97	83	74	67	61	55
77.5	159	124	102	85	74	66	57	51	46	42
80.0	111	92	79	69	60	53	48	43	39	35
85.0	68	61	55	50	45	41	38	36	33	31
90.0	47	44	40	38	35	33	31	29	27	26
95.0	34	32	31	29	27	26	25	24	22	20
100.0	25	24	23	22	21	20	19	18	17	15
105.0	20	19	18	18	17	16	15	14	13	12
110.0	15	15	15	14	13	13	12	11	10	10
115.0	11	11	11	10	10	9	9	9	9	9
120.0	8	8	8	8	8	8	8	8	8	8
125.0	7	7	7	7	8	8	8	8	7	7
130.0	0	0	0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

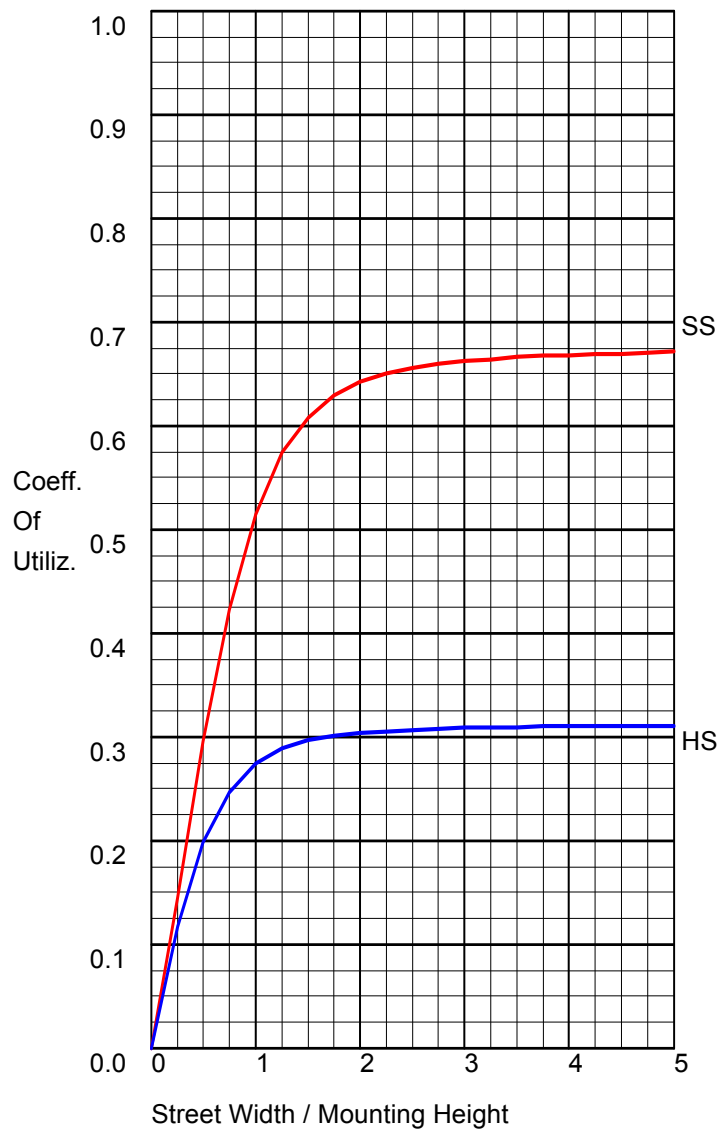
	150	155	160	165	170	175	180
0.0	1335	1335	1335	1335	1335	1335	1335
5.0	1232	1231	1226	1220	1219	1218	1219
10.0	1164	1159	1153	1149	1145	1144	1145
15.0	1091	1083	1079	1072	1067	1066	1067
20.0	1013	999	994	987	980	977	979
25.0	937	923	916	909	899	895	897
30.0	854	833	816	806	796	792	790
35.0	748	727	711	703	698	690	689
37.5	696	673	654	646	643	637	635
40.0	636	618	602	594	588	583	580
42.5	584	566	547	536	528	523	520
45.0	527	507	491	479	472	468	467
47.5	472	451	435	425	419	415	413
50.0	418	398	382	370	362	357	355
52.5	365	345	330	319	311	307	305

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CANDELA TABULATION - (Cont.)

55.0	305	291	281	273	262	257	256
57.5	249	244	236	227	222	217	217
60.0	209	204	198	187	171	161	156
62.5	169	155	147	133	111	103	102
65.0	134	123	112	96	89	85	84
67.5	108	97	86	78	73	72	71
70.0	86	78	70	63	62	60	60
72.5	68	62	56	51	49	48	47
75.0	50	47	43	41	38	36	35
77.5	39	35	33	31	29	27	26
80.0	33	30	28	26	25	24	23
85.0	28	27	25	24	22	21	20
90.0	23	21	19	17	17	17	17
95.0	18	15	12	10	9	9	9
100.0	14	12	10	9	9	9	9
105.0	10	10	9	9	9	9	8
110.0	9	9	9	8	8	8	8
115.0	9	8	8	8	8	7	8
120.0	8	8	7	7	7	7	7
125.0	7	7	7	7	6	6	6
130.0	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0

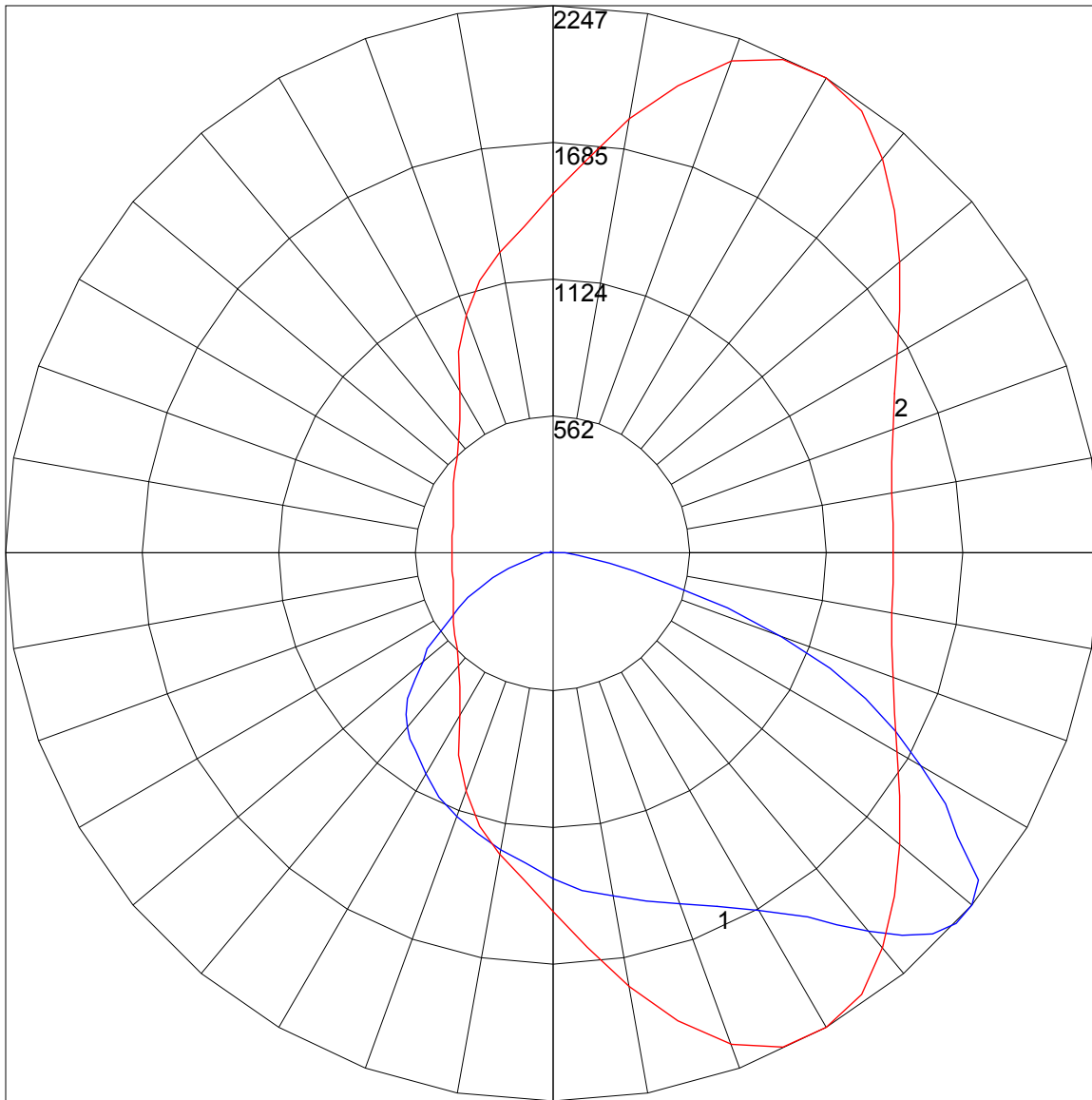
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

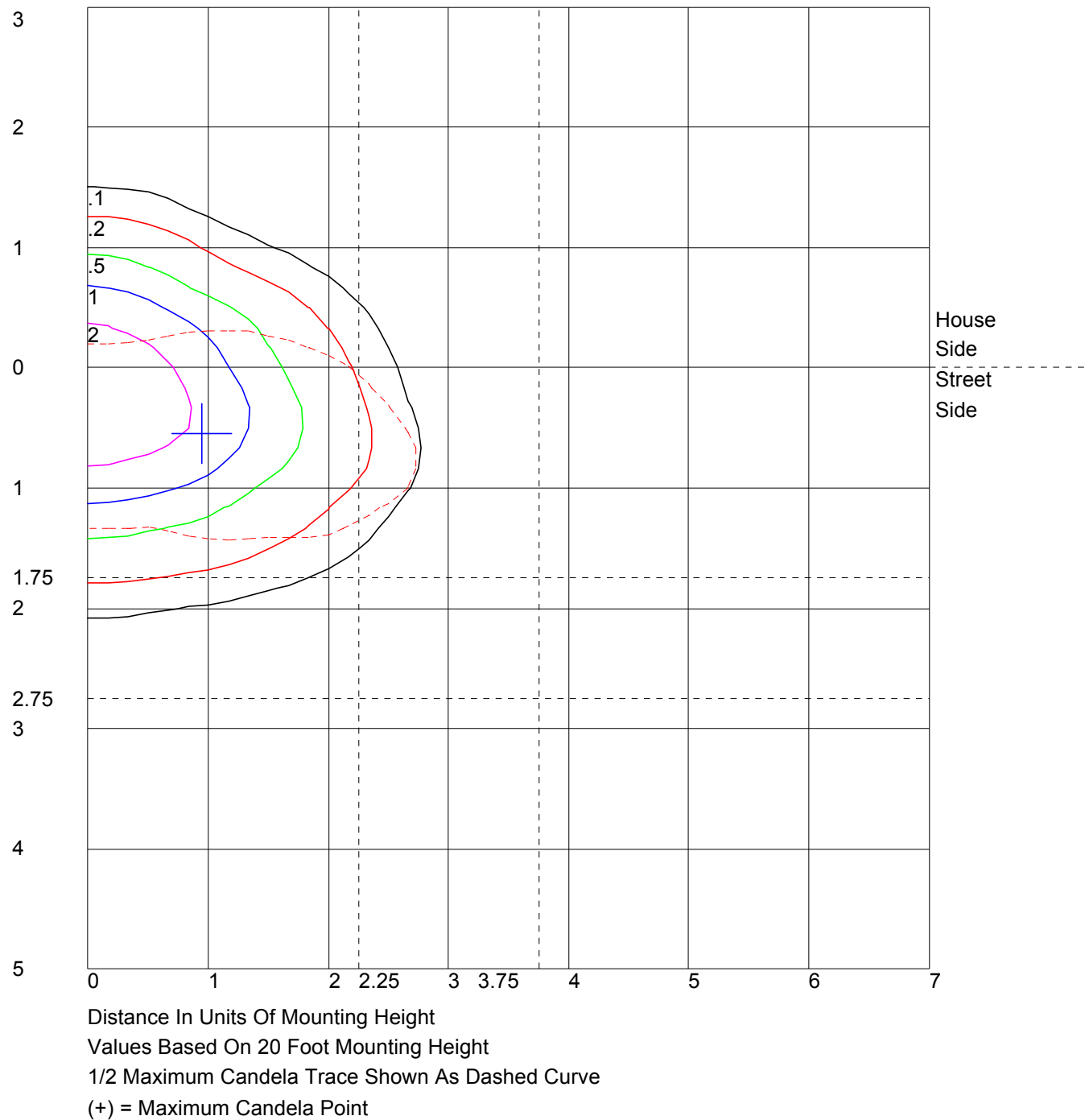
	Lumens	Percent Of Luminaire
Downward Street Side	3344.7	67.7
Downward House Side	1547.6	31.3
Downward Total	4892.3	99.0
Upward Street Side	21.7	0.4
Upward House Side	27.3	0.6
Upward Total	49.0	1.0
Total Flux	4941.3	100.0

POLAR GRAPH

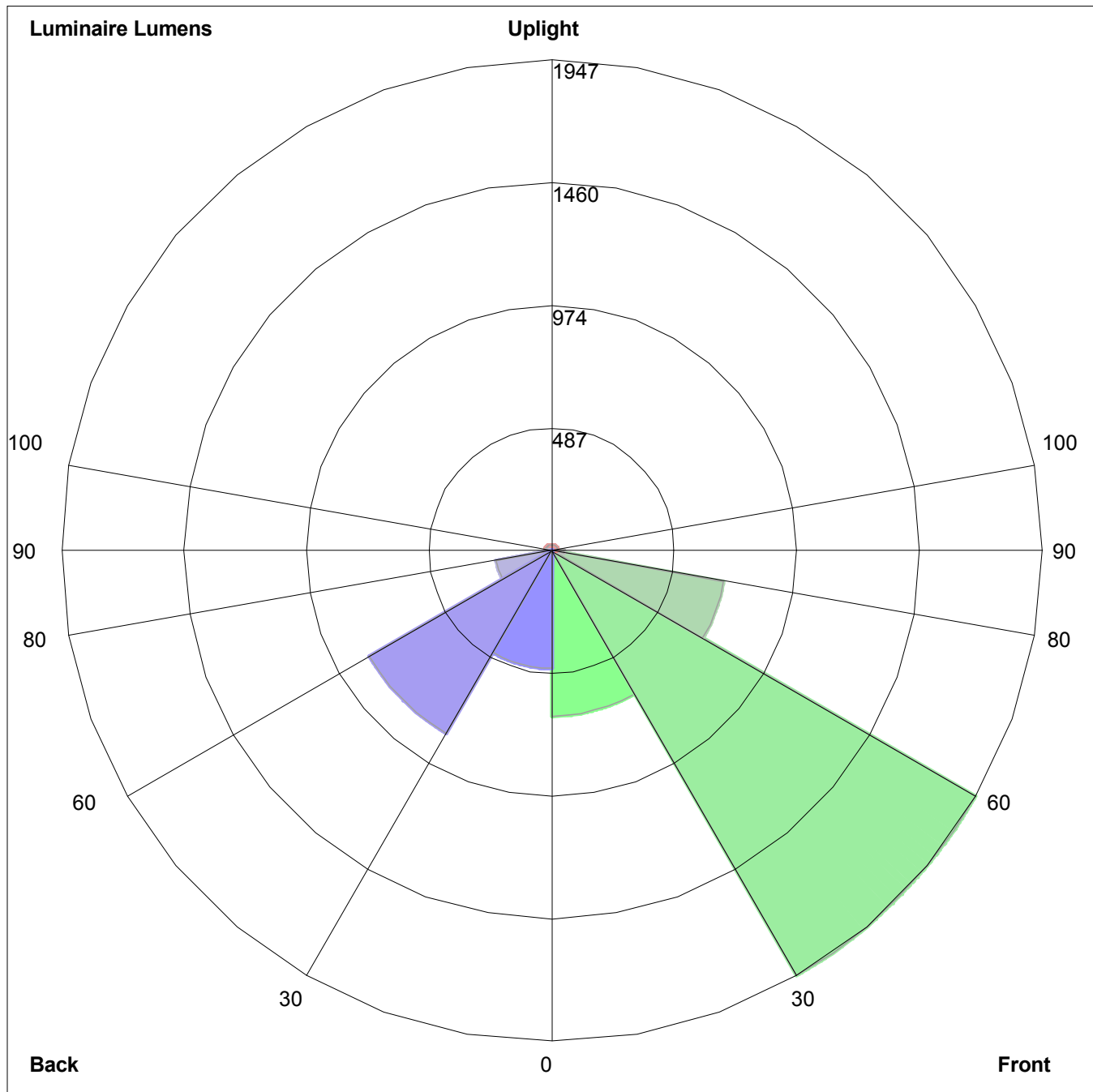


Maximum Candela = 2247 Located At Horizontal Angle = 60, Vertical Angle = 47.5
1 - Vertical Plane Through Horizontal Angles (60 - 240) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (47.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=655.2, Medium=1947.3, High=693.0, Very High=49.2
Back: Low=466.0, Medium=835.5, High=223.2, Very High=22.9
Uplight: Low=24.5, High=24.6

BUG Rating : B1-U2-G1