



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

Report No: L092010201



Report No: L092010201

Issue Date: 9/4/2020

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

Model Number: RS30-T3/30W/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: 9/2/20

Date of Tests: 9/2/20 - 9/4/20

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
Driver Model Number:	N/A

Test Summary

Total Lumens:	5111.70
Efficacy:	169.88
Color Redering Index:	72.3
Correlated Color Temperature:	3931
Input Voltage (VDC):	22.14
Input Current (Amp):	1.3590
Input Power (W):	30.09
Input Power Factor:	1.0000
Current ATHD (%):	N/A

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	1:20

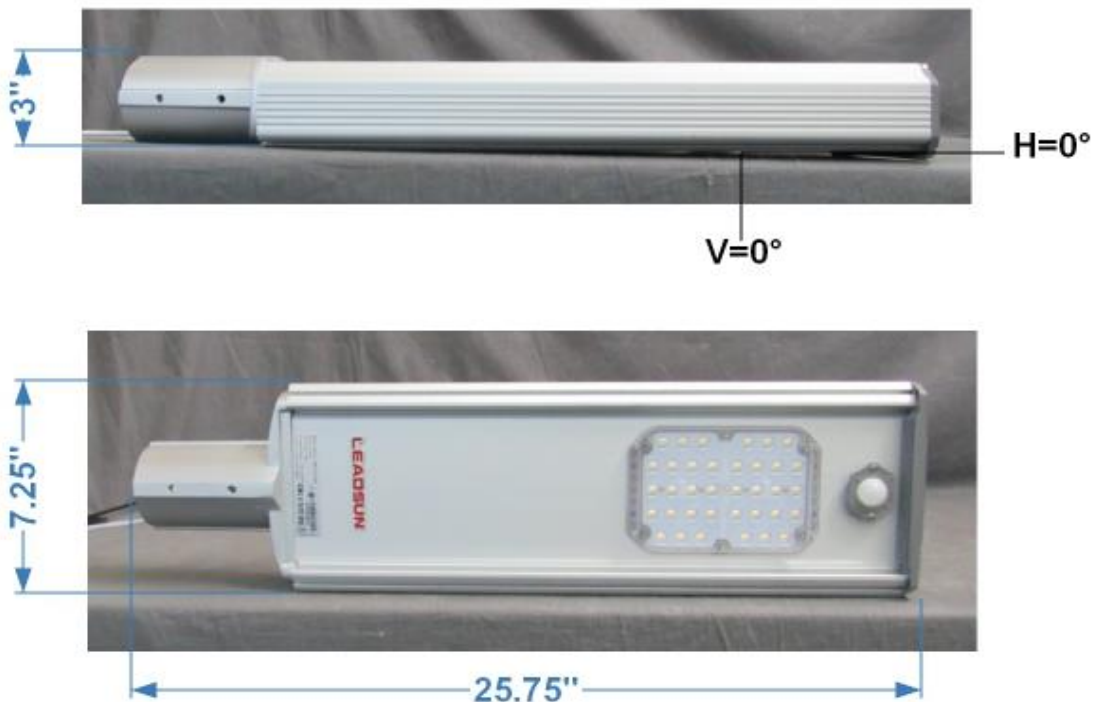
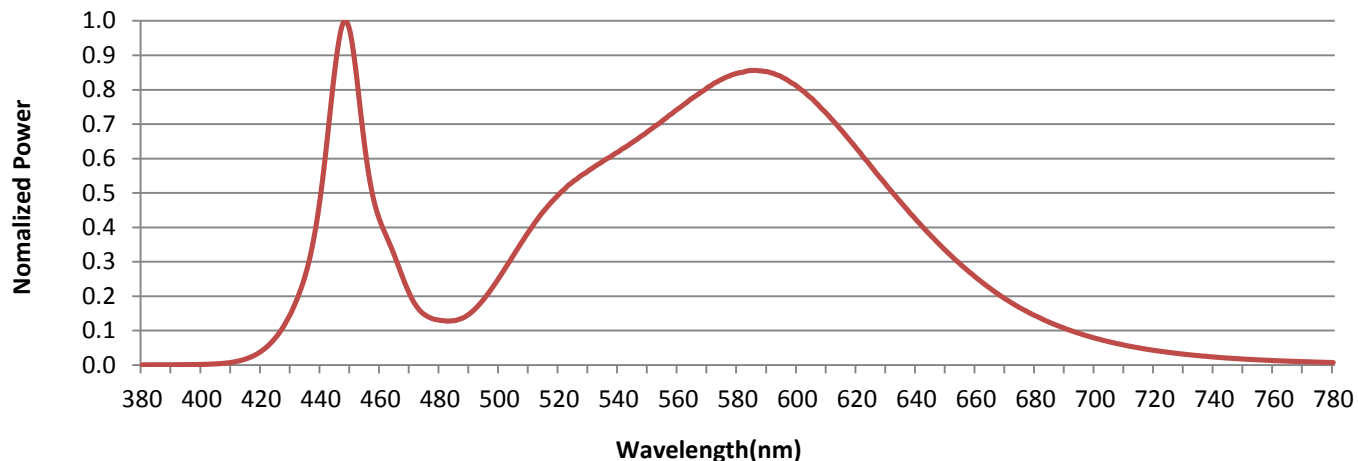


FIG. 1 LUMINAIRE

Colorimetry Test Results

Spectral Power Distribution



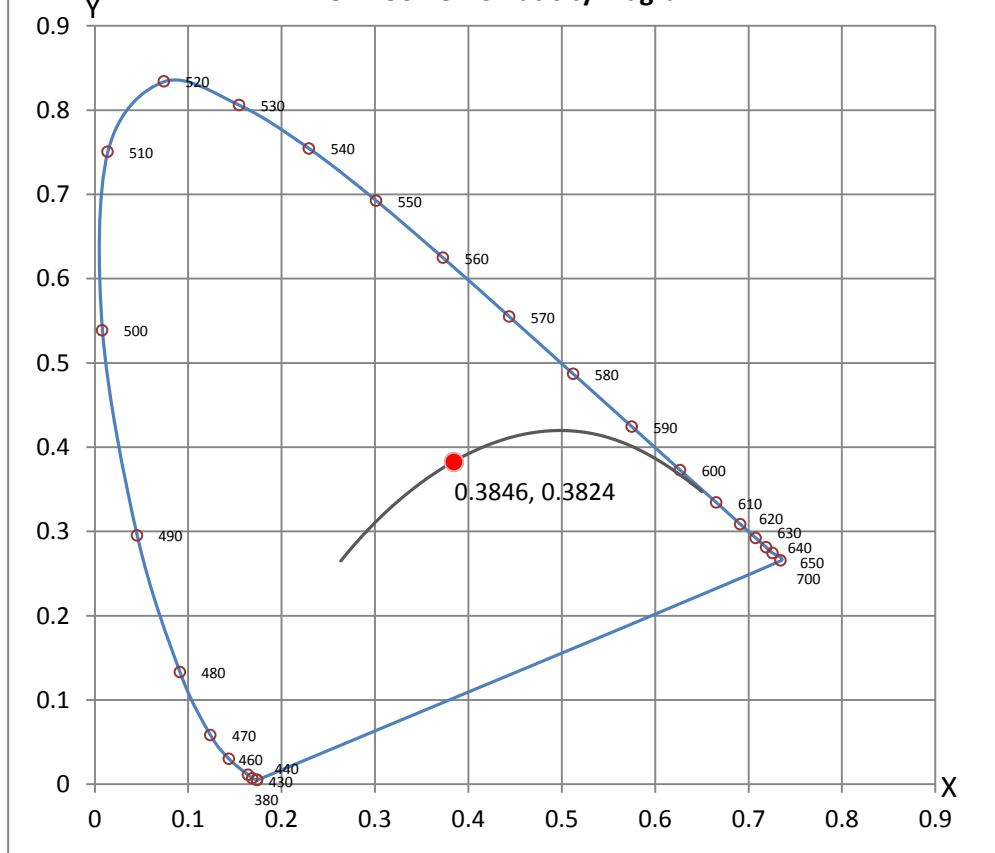
CRI & CCT

x	0.3846
y	0.3824
u'	0.2256
v'	0.5047
CRI	72.30
CCT	3931
Duv	0.00144

R Values

R1	68.65
R2	79.64
R3	88.70
R4	70.91
R5	68.68
R6	71.51
R7	80.62
R8	49.93
R9	-33.96
R10	52.41
R11	66.72
R12	43.84
R13	70.56
R14	93.41
R15	61.78

CIE 1931 Chromaticity Diagram





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

Report No: L092010201



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*



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

Photometric Test Report

IES ROAD REPORT

PHOTOMETRIC FILENAME : L092010201.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L092010201
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 9/4/2020
[MANUFAC] Leadsun Inc
[LUMCAT] RS30-T3/30W/4000K
[LUMINAIRE] 30W 4000K 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] 22.14VDC, 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	5112
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	170
Total Luminaire Watts	30.09
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	2323
Maximum Candela Angle	70H 47.5V
Maximum Candela (<90 Degrees Vertical)	2323
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	138 (2.7% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : L092010201.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	702.6	N.A.	13.7
FM - Front-Medium (30-60)	1848.3	N.A.	36.2
FH - Front-High (60-80)	547.6	N.A.	10.7
FVH - Front-Very High (80-90)	20.5	N.A.	0.4
BL - Back-Low (0-30)	527.2	N.A.	10.3
BM - Back-Medium (30-60)	1070.7	N.A.	20.9
BH - Back-High (60-80)	374.6	N.A.	7.3
BVH - Back-Very High (80-90)	20.4	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	5111.9	N.A.	100.0
BUG Rating	B2-U0-G1		

ZONAL LUMEN SUMMARY

Zone	%
0-20	10.7
0-30	24.1
0-40	42
0-60	81.2
0-80	99.2
0-90	100
10-90	97.3
20-40	31.3
20-50	51.7
40-70	52.4
60-80	18
70-80	4.8
80-90	0.8
90-110	0
90-120	0
90-130	0
90-150	0
90-180	0
110-180	0
0-180	100

IES ROAD REPORT
PHOTOMETRIC FILENAME : L092010201.IES

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	1445	1445	1445	1445	1445	1445	1445	1445	1445	1445
5.0	1540	1539	1537	1540	1542	1537	1528	1523	1518	1519
10.0	1600	1598	1596	1599	1599	1593	1584	1578	1573	1572
15.0	1643	1642	1641	1644	1648	1638	1628	1622	1616	1614
20.0	1746	1745	1744	1745	1747	1730	1709	1693	1678	1669
25.0	1782	1783	1785	1793	1804	1802	1798	1799	1792	1780
30.0	1760	1762	1768	1784	1803	1815	1830	1853	1871	1886
35.0	1621	1620	1632	1658	1694	1734	1785	1846	1895	1946
37.5	1515	1518	1532	1565	1605	1652	1719	1797	1876	1951
40.0	1400	1404	1423	1454	1492	1539	1622	1716	1819	1936
42.5	1293	1299	1316	1344	1376	1422	1511	1614	1734	1870
45.0	1184	1190	1211	1239	1275	1328	1410	1510	1637	1778
47.5	1063	1070	1090	1123	1164	1226	1306	1409	1521	1673
50.0	932	939	962	1001	1048	1114	1204	1321	1443	1577
52.5	783	791	813	850	911	990	1098	1226	1370	1488
55.0	628	634	652	685	741	824	941	1094	1261	1385
57.5	489	492	503	527	568	641	757	929	1092	1242
60.0	387	389	393	405	432	485	578	705	871	1043
62.5	317	319	323	329	342	369	418	496	629	827
65.0	259	261	265	271	280	299	318	362	452	595
67.5	211	213	218	223	231	240	254	287	342	437
70.0	160	162	168	174	180	188	209	239	282	342
72.5	118	120	128	137	144	152	164	188	227	275
75.0	98	100	104	111	118	126	134	149	173	207
77.5	80	82	85	89	96	104	110	120	131	143
80.0	58	61	63	66	71	79	85	88	91	93
85.0	10	11	13	14	16	17	18	20	23	26
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	1445	1445	1445	1445	1445	1445	1445	1445	1445	1445
5.0	1511	1507	1494	1490	1483	1472	1462	1455	1450	1438
10.0	1562	1556	1540	1532	1521	1505	1488	1476	1459	1439
15.0	1604	1596	1579	1571	1558	1541	1520	1502	1478	1449
20.0	1652	1641	1627	1620	1606	1589	1565	1541	1509	1469
25.0	1753	1727	1702	1690	1677	1660	1638	1608	1569	1520
30.0	1890	1878	1848	1817	1787	1760	1728	1690	1646	1587
35.0	1993	2022	2024	1996	1934	1862	1800	1735	1658	1572
37.5	2022	2071	2100	2098	2051	1960	1872	1786	1688	1591
40.0	2030	2106	2164	2196	2174	2080	1967	1848	1739	1615
42.5	2004	2113	2210	2281	2269	2188	2033	1898	1758	1627
45.0	1955	2104	2235	2317	2320	2263	2102	1917	1755	1605
47.5	1861	2030	2206	2310	2323	2287	2151	1943	1758	1582
50.0	1728	1905	2100	2260	2300	2288	2173	1939	1721	1553
52.5	1595	1750	1953	2171	2257	2266	2180	1937	1713	1530
55.0	1482	1600	1780	2038	2197	2231	2165	1923	1674	1495
57.5	1369	1472	1620	1880	2127	2184	2127	1901	1665	1476
60.0	1232	1376	1490	1730	2028	2146	2079	1843	1617	1450
62.5	1036	1238	1372	1557	1865	2039	1966	1751	1531	1380
65.0	816	1039	1198	1329	1595	1827	1790	1607	1403	1268
67.5	594	795	961	1066	1244	1465	1496	1358	1195	1084

IES ROAD REPORT
PHOTOMETRIC FILENAME : L092010201.IES

CANDELA TABULATION - (Cont.)

70.0	428	552	674	771	912	1086	1139	1087	963	874
72.5	343	422	503	551	626	702	734	695	610	565
75.0	254	290	314	338	369	393	383	354	329	326
77.5	159	184	206	215	230	226	219	216	216	210
80.0	97	112	127	136	138	133	130	129	133	128
85.0	29	30	32	34	37	38	38	37	36	35
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	1445	1445	1445	1445	1445	1445	1445	1445	1445	1445
5.0	1429	1420	1416	1406	1396	1387	1383	1376	1373	1368
10.0	1423	1407	1394	1378	1361	1348	1335	1323	1315	1306
15.0	1420	1397	1373	1348	1326	1305	1286	1263	1249	1237
20.0	1433	1399	1362	1323	1291	1259	1231	1205	1184	1169
25.0	1467	1417	1365	1312	1266	1222	1182	1147	1122	1098
30.0	1521	1454	1379	1305	1239	1180	1126	1081	1046	1016
35.0	1494	1423	1340	1261	1186	1121	1056	1006	967	939
37.5	1496	1413	1325	1234	1150	1077	1013	963	926	898
40.0	1505	1404	1315	1223	1122	1041	973	919	881	855
42.5	1503	1398	1307	1208	1101	1009	934	878	837	807
45.0	1481	1383	1297	1195	1083	972	891	834	787	754
47.5	1450	1344	1259	1160	1048	943	845	781	731	699
50.0	1414	1308	1217	1112	992	882	784	722	675	638
52.5	1386	1279	1167	1050	922	795	709	655	612	577
55.0	1351	1240	1124	992	847	704	624	574	547	521
57.5	1336	1219	1100	947	780	637	541	504	481	461
60.0	1316	1186	1056	882	701	564	482	437	417	405
62.5	1249	1120	984	801	636	515	438	389	358	344
65.0	1164	1012	870	703	560	458	388	342	306	285
67.5	1011	886	750	605	477	393	334	294	265	247
70.0	812	722	606	496	410	335	283	250	229	213
72.5	561	520	452	389	323	269	233	210	191	174
75.0	337	314	273	238	215	197	183	164	150	138
77.5	207	191	171	154	140	126	118	116	113	108
80.0	121	115	107	97	88	79	76	77	78	78
85.0	34	33	31	30	29	29	29	29	29	30
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles
Angles

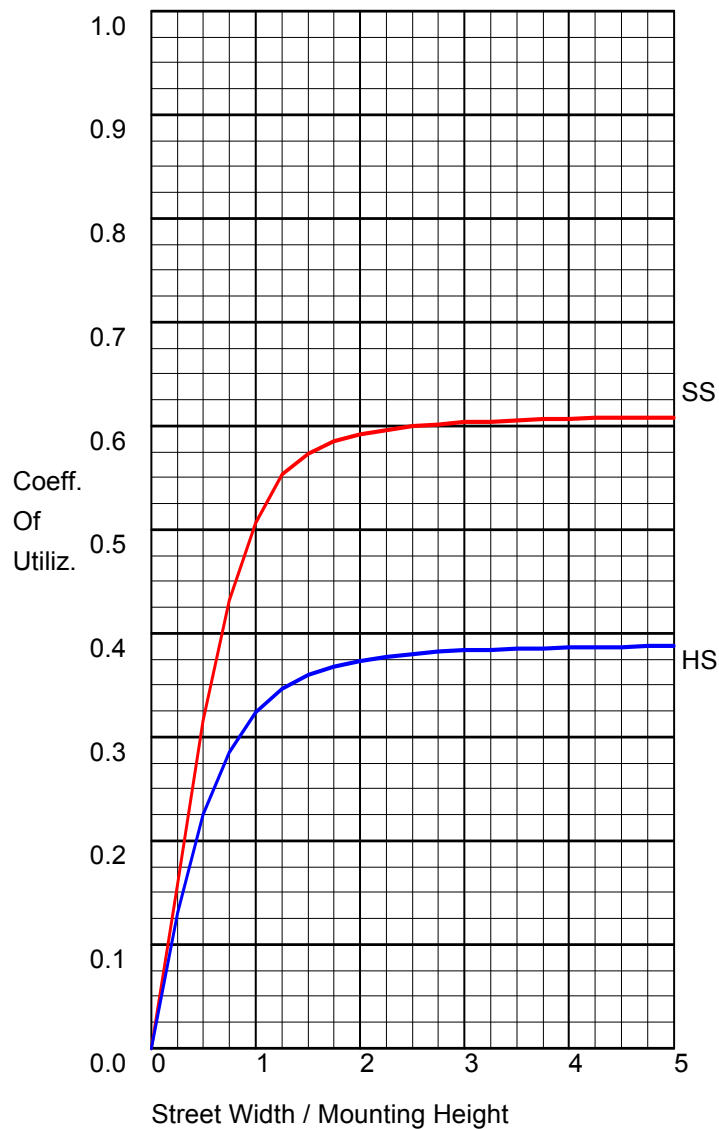
	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	1445	1445	1445	1445	1445	1445	1445
5.0	1366	1365	1361	1356	1354	1352	1348
10.0	1301	1296	1289	1280	1278	1274	1271
15.0	1228	1219	1210	1199	1195	1190	1189
20.0	1156	1146	1135	1124	1119	1115	1115
25.0	1079	1067	1054	1043	1037	1033	1032
30.0	995	982	968	959	956	951	950
35.0	915	903	893	884	881	878	874
37.5	873	860	849	838	832	828	824
40.0	830	811	797	785	780	776	774
42.5	777	761	748	737	729	724	724
45.0	725	708	691	679	671	667	667
47.5	669	648	634	624	618	615	614

IES ROAD REPORT
PHOTOMETRIC FILENAME : L092010201.IES

CANDELA TABULATION - (Cont.)

50.0	611	593	580	569	562	559	558
52.5	553	535	521	512	505	502	500
55.0	496	478	466	457	451	448	446
57.5	439	421	409	402	396	393	390
60.0	387	369	357	348	342	337	334
62.5	335	320	309	303	298	295	294
65.0	281	278	271	266	261	258	256
67.5	237	238	235	229	222	216	214
70.0	200	191	187	177	161	143	134
72.5	159	148	141	128	113	107	105
75.0	128	120	108	99	92	89	87
77.5	102	96	88	80	78	76	74
80.0	79	76	69	65	64	63	61
85.0	31	32	33	33	34	33	31
90.0	0	0	0	0	0	0	0

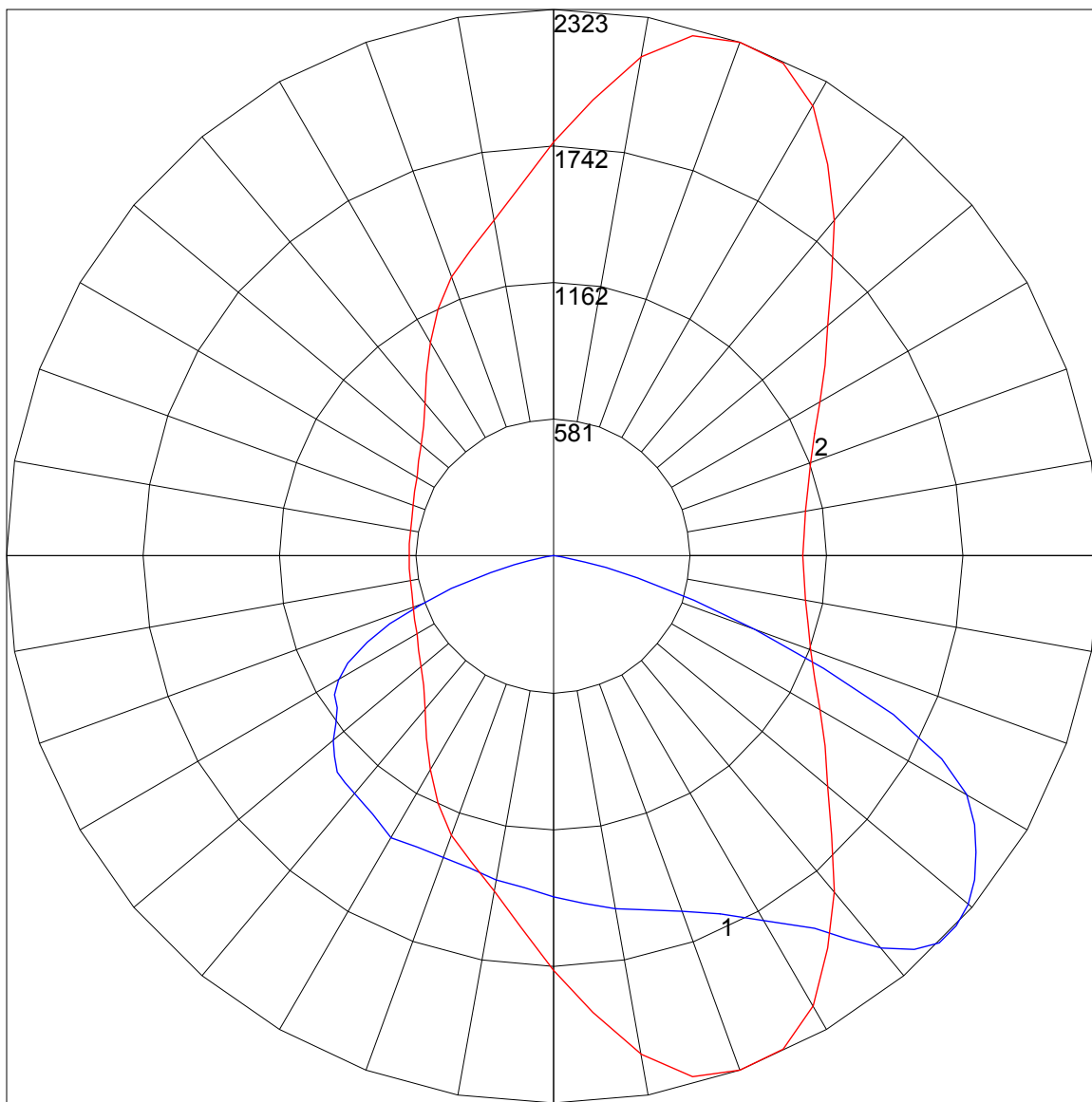
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	3118.8	61.0
Downward House Side	1992.9	39.0
Downward Total	5111.7	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	5111.7	100.0

POLAR GRAPH

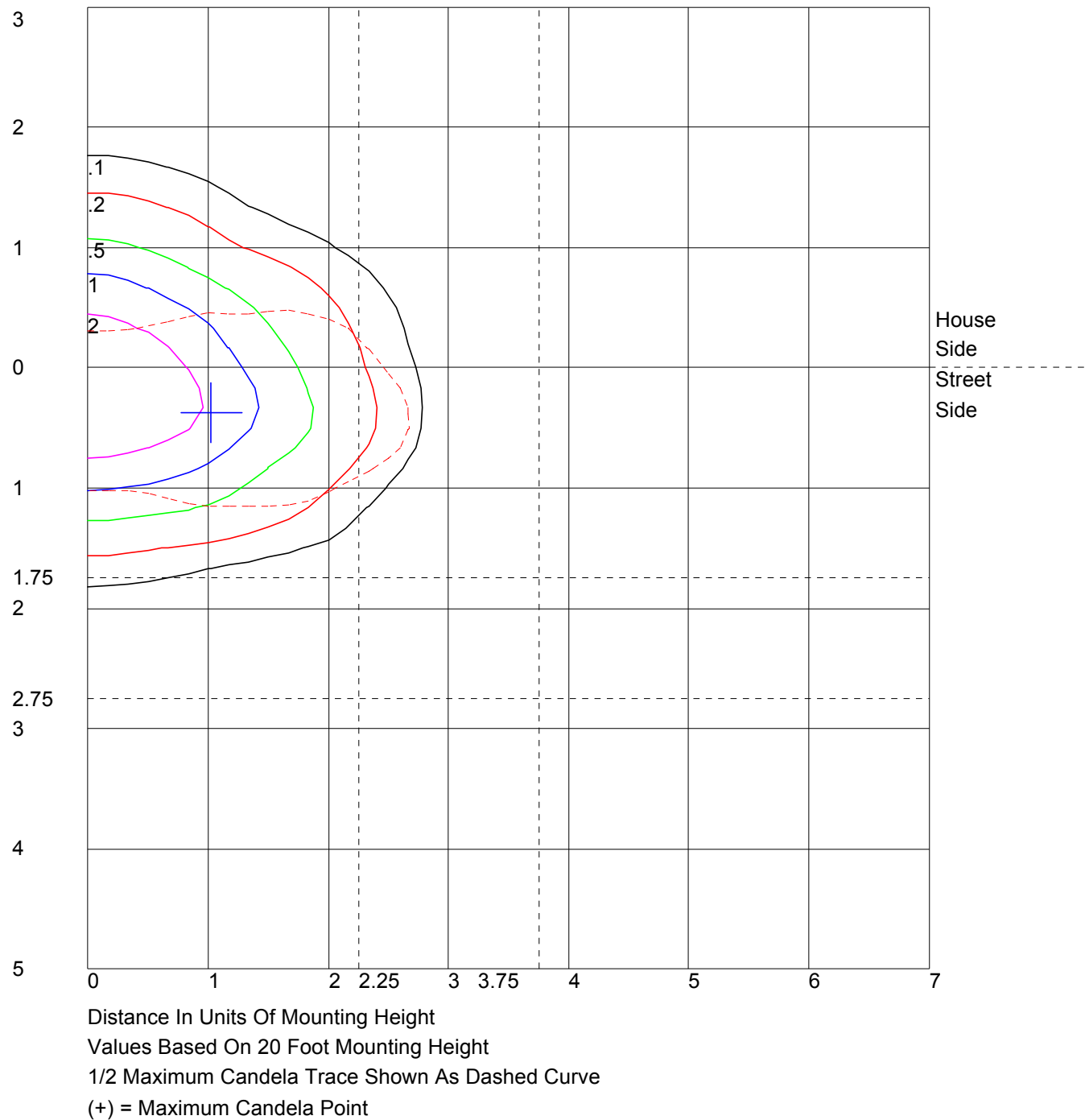


Maximum Candela = 2323 Located At Horizontal Angle = 70, Vertical Angle = 47.5

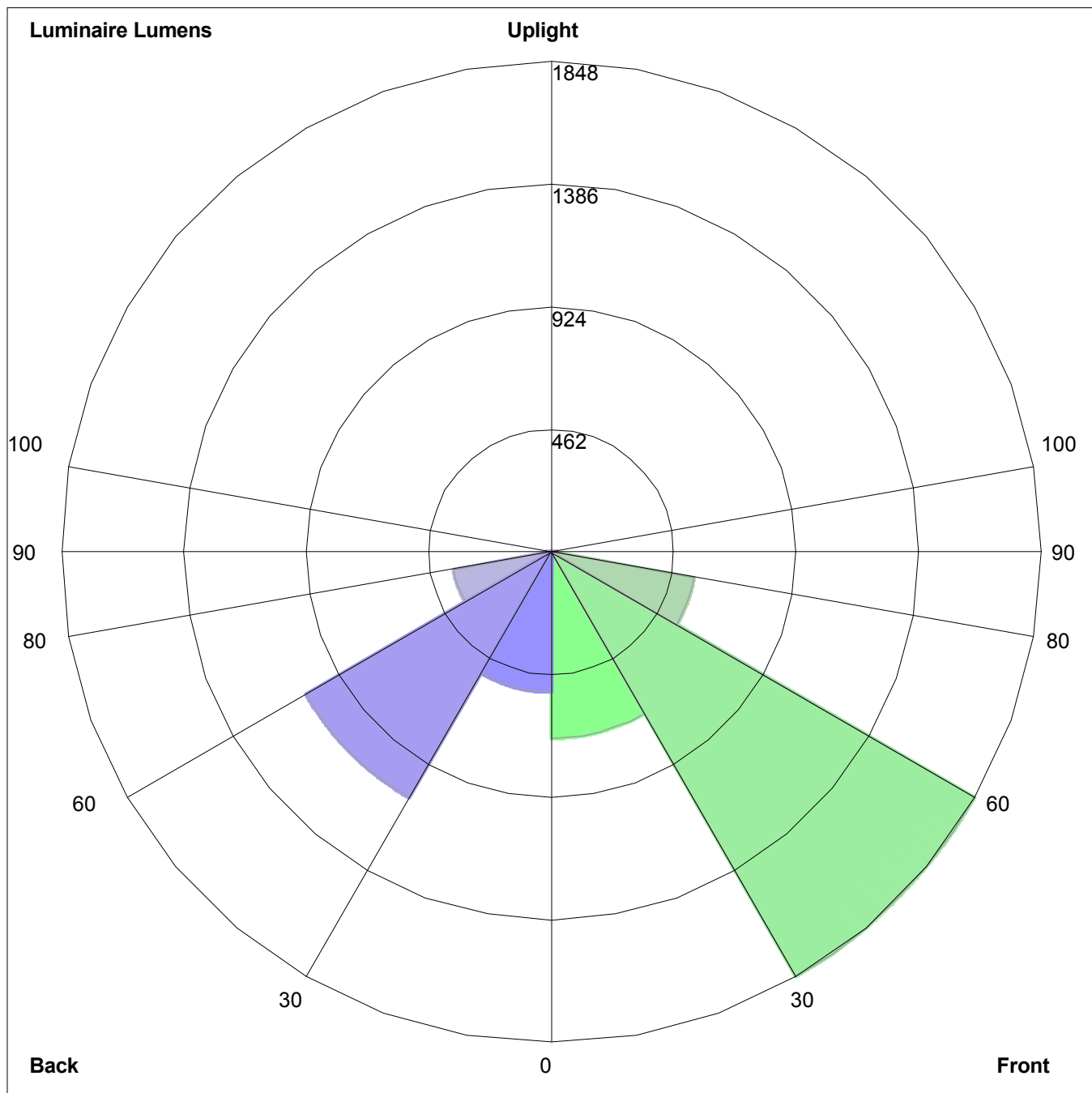
1 - Vertical Plane Through Horizontal Angles (70 - 250) (Through Max. Cd.)

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=702.6, Medium=1848.3, High=547.6, Very High=20.5
Back: Low=527.2, Medium=1070.7, High=374.6, Very High=20.4
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G1