

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P227588

Luminaire Tested: **ISS-AF-1000-LED-E1-T2-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227588
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29758)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-1000-LED-E1-T2-7060
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II
Light Source: (16) 5700K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5663 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

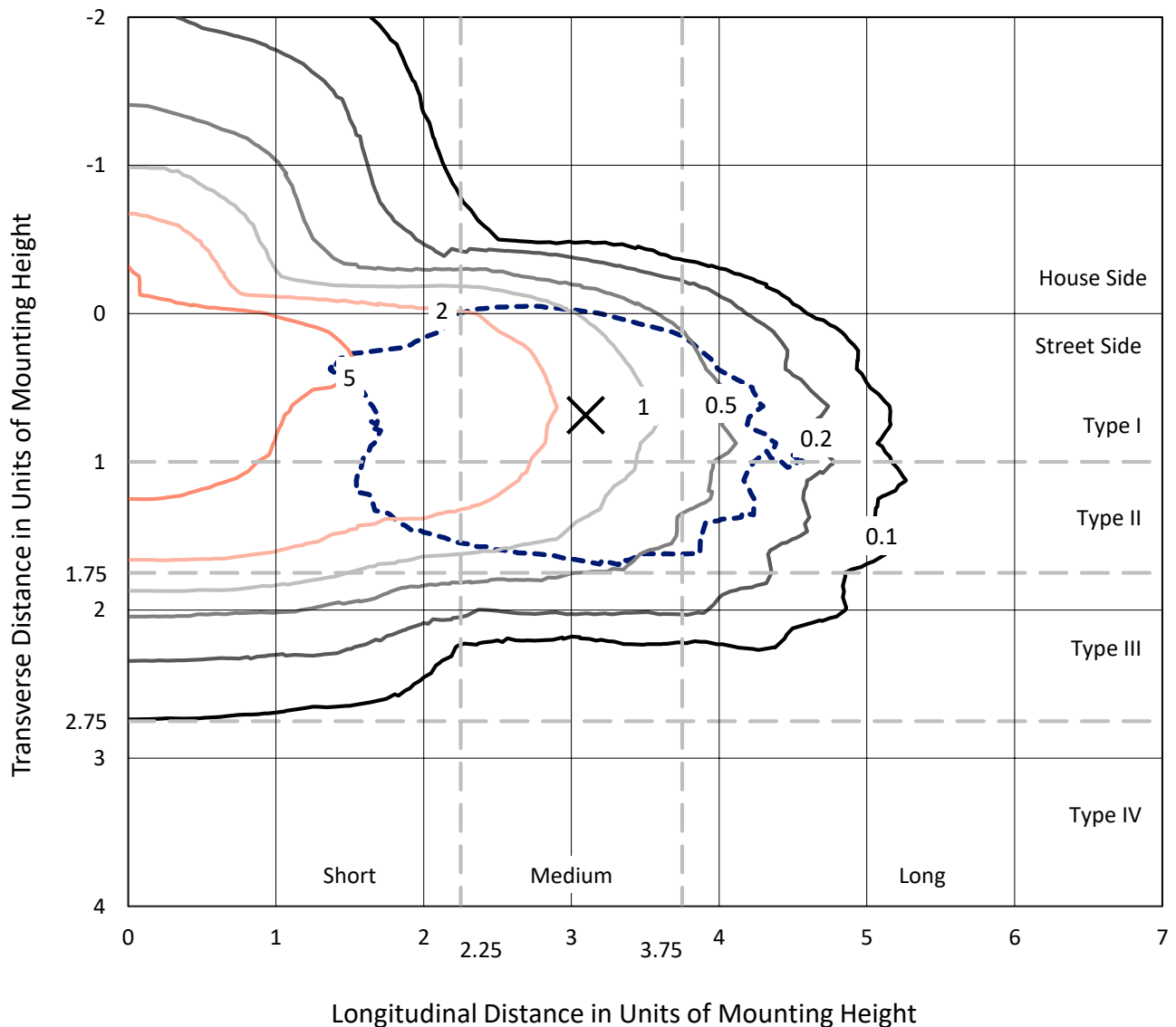
Input Watts (W): 54.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P227588
 CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

Iso-Footcandle Lines of Horizontal Illumination

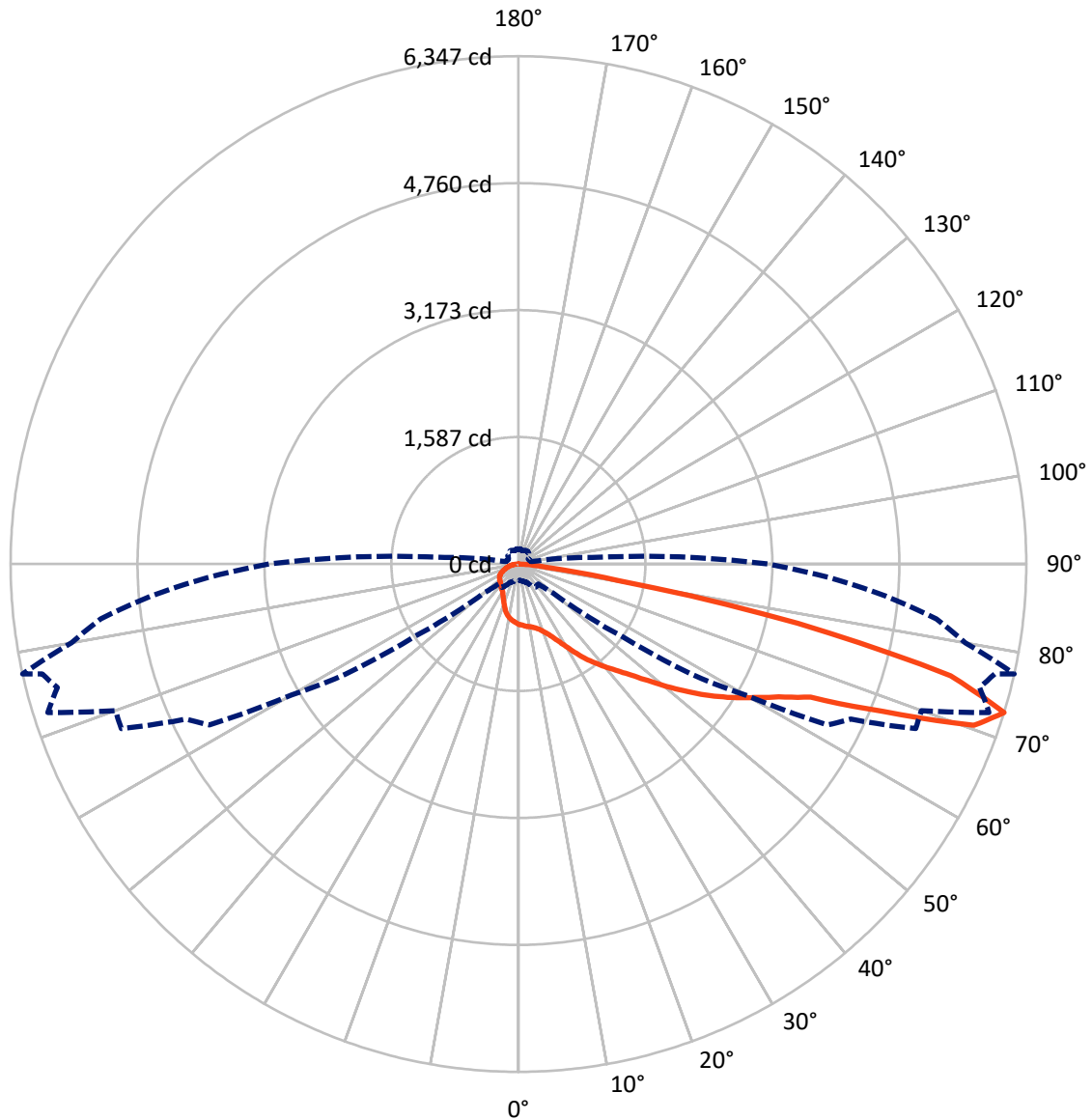
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.2 fc
 Type II - Medium - Non-Cutoff

REPORT NUMBER: P227588
CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	938.3	0.0	938.3
	% Fixture	16.6	0.0	16.6
Street Side	Lumens	4724.6	0.0	4724.6
	% Fixture	83.4	0.0	83.4
Total	Lumens	5663.0	0.0	5663.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.2	1.2
10°-20°	215.3	3.8
20°-30°	382.3	6.8
30°-40°	605.7	10.7
40°-50°	908.6	16.0
50°-60°	1177.5	20.8
60°-70°	1337.9	23.6
70°-80°	887.8	15.7
80°-90°	77.7	1.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	5663.0	100.0
0°-180°	5663.0	100.0



REPORT NUMBER: P227588

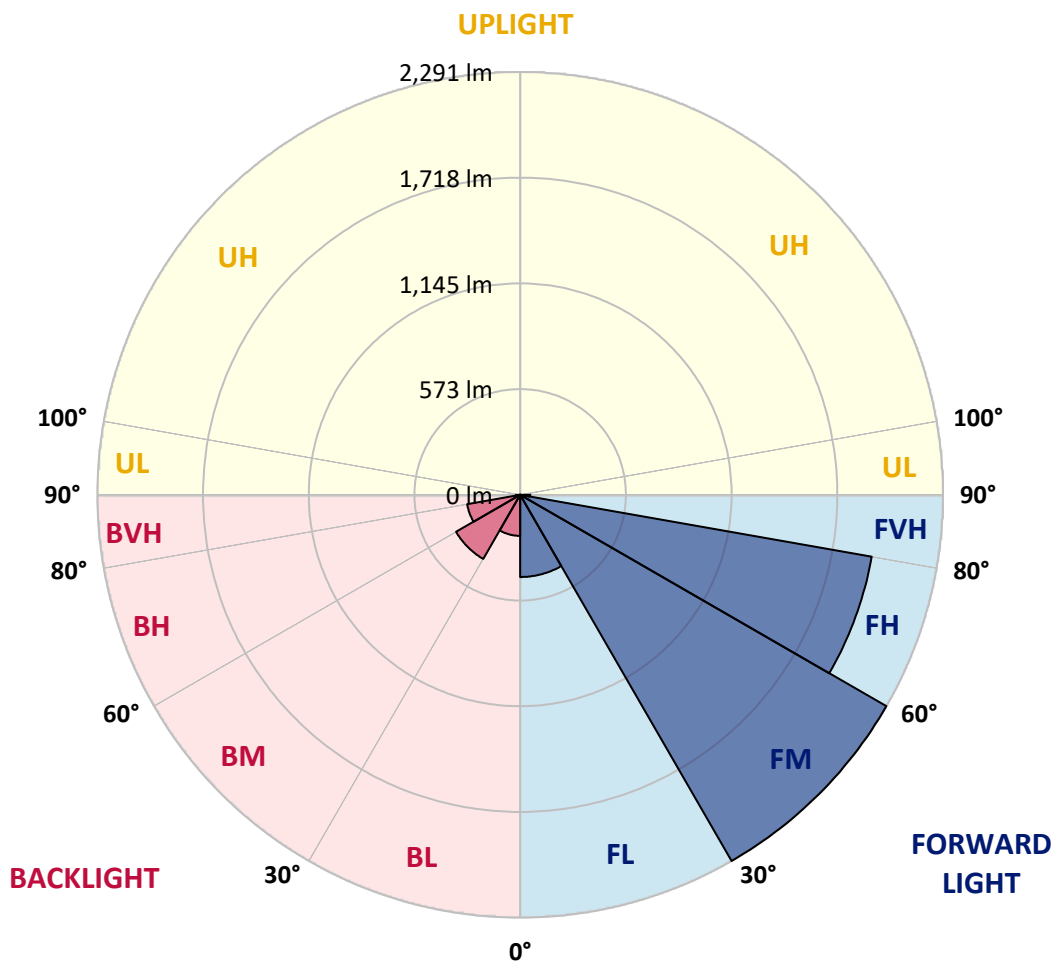
CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	445.5	7.9			
FM (30°-60°)	2291.0	40.5			
FH (60°-80°)	1933.9	34.2			G2/5000
FVH (80°-90°)	54.3	1.0			G1/100
BL (0°-30°)	222.3	3.9	B1/500		
BM (30°-60°)	400.8	7.1	B1/1000		
BH (60°-80°)	291.8	5.2	B1/500		G1/500
BVH (80°-90°)	23.4	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Medium





REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1
2.5°	819.1	815.3	813.4	809.6	805.8	803.8	798.1	794.3	800.0	798.1	798.1
5°	880.2	876.4	870.7	864.9	857.3	851.6	845.9	840.1	843.9	840.1	836.3
7.5°	929.9	926.0	918.4	912.7	905.0	897.4	889.8	887.9	884.0	878.3	876.4
10°	958.5	954.7	950.9	947.0	935.6	929.9	920.3	914.6	916.5	908.9	908.9
12.5°	985.2	981.4	979.5	979.5	970.0	964.2	960.4	954.7	958.5	947.0	943.2
15°	1010.1	1006.2	1000.5	1006.2	1004.3	1002.4	1000.5	998.6	1004.3	992.9	994.8
17.5°	1050.2	1048.2	1036.8	1029.1	1031.1	1036.8	1040.6	1038.7	1038.7	1033.0	1034.9
20°	1113.2	1113.2	1097.9	1084.5	1063.5	1063.5	1065.4	1063.5	1067.3	1071.2	1076.9
22.5°	1160.9	1157.1	1151.3	1139.9	1117.0	1097.9	1097.9	1090.2	1096.0	1097.9	1109.3
25°	1222.0	1218.2	1204.8	1204.8	1181.9	1157.1	1153.3	1141.8	1155.2	1130.3	1149.4
27.5°	1296.5	1292.6	1275.5	1267.8	1256.4	1225.8	1218.2	1220.1	1233.5	1197.2	1216.3
30°	1390.0	1386.2	1365.2	1344.2	1325.1	1292.6	1288.8	1286.9	1317.5	1275.5	1300.3
32.5°	1508.4	1508.4	1485.5	1456.8	1418.7	1374.7	1359.5	1361.4	1403.4	1357.6	1399.6
35°	1687.9	1665.0	1623.0	1579.0	1539.0	1487.4	1466.4	1462.6	1500.8	1454.9	1502.7
37.5°	1802.4	1787.2	1749.0	1716.5	1672.6	1623.0	1607.7	1613.4	1645.9	1579.0	1647.8
40°	1905.6	1903.6	1878.8	1857.8	1813.9	1764.3	1783.4	1859.7	1945.6	1815.8	1817.7
42.5°	1974.3	1978.1	1976.2	1978.1	1953.3	1901.7	1934.2	2041.1	2188.1	2111.8	2041.1
45°	1985.7	1999.1	2004.8	2043.0	2067.8	2037.3	2054.5	2167.1	2461.2	2579.6	2260.7
47.5°	2014.4	2027.7	2016.3	2062.1	2176.7	2174.8	2243.5	2285.5	2325.6	2344.7	2585.3
50°	2052.6	2077.4	2065.9	2104.1	2197.7	2251.1	2310.3	2363.8	2331.3	2211.0	2276.0
52.5°	2054.5	2083.1	2146.1	2184.3	2276.0	2264.5	2304.6	2276.0	2325.6	2201.5	2264.5
55°	1886.5	1892.2	2075.5	2268.3	2428.7	2396.3	2371.4	2306.5	2369.5	2214.9	2295.1
57.5°	1621.1	1640.1	1831.1	2155.7	2499.4	2528.0	2520.4	2514.6	2564.3	2358.1	2445.9
60°	1328.9	1351.8	1533.2	1915.1	2352.3	2426.8	2529.9	2592.9	2720.9	2638.7	2783.9
62.5°	828.7	845.9	1046.3	1523.7	2075.5	2222.5	2373.3	2447.8	2633.0	2671.2	2917.5
65°	395.2	401.0	479.3	828.7	1508.4	1785.3	2008.7	2167.1	2394.3	2566.2	2898.4
67.5°	307.4	309.3	338.0	441.1	773.3	958.5	1212.4	1422.5	1665.0	2134.7	2547.1
70°	246.3	246.3	269.2	324.6	479.3	504.1	569.0	639.6	742.7	1120.8	1454.9
72.5°	206.2	206.2	221.5	255.9	355.1	360.9	357.1	351.3	351.3	443.0	565.2
75°	173.8	171.8	181.4	204.3	263.5	271.1	267.3	253.9	238.7	238.7	269.2
77.5°	141.3	141.3	148.9	160.4	190.9	194.8	194.8	183.3	169.9	171.8	185.2
80°	110.7	110.7	116.5	124.1	133.7	131.7	131.7	120.3	110.7	108.8	116.5
82.5°	80.2	82.1	95.5	89.7	85.9	80.2	80.2	78.3	70.6	64.9	68.7
85°	24.8	26.7	45.8	53.5	43.9	36.3	34.4	28.6	30.5	24.8	28.6
87.5°	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.9	0.0	1.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

CANDELA DISTRIBUTION (continued):

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77°
0°	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1
2.5°	788.6	792.4	784.8	784.8	775.2	780.9	771.4	773.3	763.7	767.6	767.6
5°	826.8	828.7	819.1	815.3	805.8	805.8	796.2	796.2	782.8	786.7	782.8
7.5°	863.0	863.0	853.5	845.9	836.3	832.5	821.0	815.3	803.8	801.9	796.2
10°	893.6	893.6	880.2	872.6	861.1	855.4	840.1	834.4	821.0	811.5	805.8
12.5°	931.8	928.0	912.7	905.0	885.9	884.0	861.1	857.3	838.2	832.5	822.9
15°	977.6	981.4	956.6	954.7	928.0	926.0	895.5	893.6	864.9	863.0	849.7
17.5°	1027.2	1034.9	1013.9	1012.0	979.5	979.5	943.2	941.3	903.1	901.2	884.0
20°	1071.2	1080.7	1067.3	1071.2	1042.5	1044.4	1004.3	1004.3	950.9	947.0	931.8
22.5°	1111.3	1130.3	1118.9	1139.9	1111.3	1124.6	1071.2	1080.7	1017.7	1010.1	987.1
25°	1151.3	1176.2	1172.4	1206.7	1185.7	1208.6	1153.3	1172.4	1090.2	1096.0	1065.4
27.5°	1191.4	1223.9	1220.1	1269.7	1262.1	1307.9	1260.2	1281.2	1191.4	1197.2	1162.8
30°	1258.3	1294.6	1281.2	1332.7	1332.7	1407.2	1370.9	1403.4	1304.1	1315.6	1275.5
32.5°	1348.0	1390.0	1349.9	1416.8	1412.9	1510.3	1481.7	1537.0	1439.7	1454.9	1405.3
35°	1445.4	1512.2	1447.3	1521.8	1510.3	1611.5	1592.4	1682.2	1579.0	1596.2	1546.6
37.5°	1573.3	1653.5	1567.6	1632.5	1581.0	1697.4	1686.0	1808.2	1703.2	1747.1	1687.9
40°	1724.2	1787.2	1680.2	1735.6	1649.7	1770.0	1750.9	1918.9	1821.5	1892.2	1838.7
42.5°	1863.5	1907.5	1766.2	1834.9	1731.8	1854.0	1819.6	2022.0	1938.0	2046.8	1987.7
45°	1989.6	2039.2	1852.1	1928.5	1813.9	1947.6	1888.4	2121.3	2064.0	2228.2	2169.0
47.5°	2169.0	2096.5	1930.4	2029.7	1901.7	2048.8	1970.5	2237.8	2216.8	2449.7	2381.0
50°	2109.9	2157.6	1995.3	2098.4	1981.9	2161.4	2075.5	2377.2	2382.9	2690.3	2650.2
52.5°	2115.6	2195.8	2044.9	2188.1	2075.5	2318.0	2228.2	2545.2	2571.9	2923.2	2867.9
55°	2149.9	2268.3	2119.4	2312.2	2207.2	2491.7	2428.7	2726.6	2772.4	3142.8	3110.4
57.5°	2235.9	2400.1	2247.3	2499.4	2390.5	2690.3	2633.0	2913.7	2976.7	3362.4	3352.9
60°	2566.2	2760.9	2493.6	2772.4	2627.3	2915.6	2839.2	3110.4	3173.4	3572.4	3597.3
62.5°	2934.7	3272.7	3114.2	3404.4	3020.6	3312.8	3087.4	3352.9	3356.7	3797.7	3876.0
65°	3030.2	3549.5	3685.1	4225.4	4024.9	4324.7	3723.3	3900.8	3671.7	4208.2	4320.9
67.5°	2993.9	3629.7	4005.9	4614.9	4842.2	5365.3	5264.1	5203.0	4672.2	5057.9	5193.5
70°	2197.7	2871.7	3792.0	4410.6	5065.6	5409.2	5953.4	6008.8	5985.9	5932.4	6022.1
72.5°	1000.5	1569.5	2566.2	3272.7	4353.4	4584.4	5373.0	5357.7	6167.3	5966.8	6108.1
75°	393.3	605.3	1222.0	1827.3	3011.1	3295.6	4189.2	3967.7	4977.7	4683.7	4985.4
77.5°	215.8	271.1	458.2	784.8	1644.0	1794.8	2564.3	2193.9	3087.4	2577.6	2678.8
80°	129.8	162.3	210.0	297.9	698.8	738.9	1094.1	882.1	1262.1	958.5	929.9
82.5°	70.6	87.8	105.0	147.0	259.7	288.3	378.1	339.9	404.8	345.6	338.0
85°	28.6	38.2	40.1	59.2	85.9	99.3	120.3	129.8	158.5	145.1	141.3
87.5°	0.0	1.9	0.0	3.8	0.0	3.8	0.0	5.7	5.7	9.5	11.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

CANDELA DISTRIBUTION (continued):

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1
2.5°	761.8	767.6	759.9	759.9	750.4	756.1	750.4	744.7	735.1	737.0	723.7
5°	775.2	779.0	769.5	765.7	759.9	758.0	746.6	735.1	721.7	721.7	706.5
7.5°	788.6	788.6	775.2	775.2	761.8	758.0	740.8	721.7	702.6	700.7	677.8
10°	796.2	794.3	777.1	777.1	758.0	756.1	735.1	706.5	679.7	672.1	639.6
12.5°	811.5	809.6	788.6	784.8	759.9	759.9	729.4	691.2	653.0	639.6	593.8
15°	830.6	832.5	807.7	801.9	773.3	771.4	729.4	672.1	620.5	599.5	544.2
17.5°	861.1	863.0	828.7	822.9	788.6	782.8	731.3	649.2	576.6	553.7	504.1
20°	901.2	895.5	849.7	847.8	801.9	796.2	729.4	614.8	532.7	509.8	465.9
22.5°	950.9	945.1	885.9	880.2	826.8	817.2	727.5	578.5	492.6	467.8	439.2
25°	1019.6	1012.0	939.4	931.8	864.9	849.7	725.6	540.4	458.2	439.2	422.0
27.5°	1105.5	1090.2	1002.4	994.8	905.0	885.9	717.9	496.4	423.9	410.5	402.9
30°	1208.6	1195.3	1082.6	1071.2	958.5	933.7	710.3	456.3	399.1	393.3	387.6
32.5°	1330.8	1317.5	1180.0	1166.6	1027.2	991.0	696.9	423.9	383.8	383.8	376.1
35°	1458.8	1447.3	1285.0	1275.5	1103.6	1055.9	679.7	395.2	370.4	370.4	362.8
37.5°	1573.3	1582.9	1399.6	1391.9	1180.0	1120.8	660.6	376.1	359.0	355.1	347.5
40°	1697.4	1720.3	1506.5	1512.2	1260.2	1189.5	637.7	360.9	345.6	341.8	339.9
42.5°	1823.4	1867.4	1619.1	1640.1	1340.4	1260.2	620.5	351.3	339.9	332.2	330.3
45°	1980.0	2043.0	1758.5	1798.6	1433.9	1346.1	614.8	339.9	322.7	313.1	307.4
47.5°	2174.8	2258.8	1930.4	1976.2	1558.0	1449.2	626.3	336.0	311.2	299.8	288.3
50°	2405.8	2486.0	2134.7	2153.8	1697.4	1561.9	651.1	341.8	307.4	290.2	273.0
52.5°	2650.2	2711.3	2350.4	2329.4	1842.5	1672.6	679.7	343.7	297.9	280.7	259.7
55°	2902.2	2936.6	2550.9	2495.5	1974.3	1783.4	717.9	341.8	290.2	271.1	244.4
57.5°	3148.5	3160.0	2728.5	2675.0	2104.1	1915.1	765.7	336.0	278.8	259.7	231.0
60°	3389.1	3408.2	2925.2	2875.5	2245.4	2085.0	834.4	326.5	263.5	250.1	219.6
62.5°	3652.6	3715.6	3160.0	3167.6	2440.2	2350.4	964.2	315.0	248.2	232.9	202.4
65°	4011.6	4252.2	3547.6	3727.1	2814.4	2850.7	1212.4	282.6	227.2	208.1	187.1
67.5°	4910.9	5174.4	4488.9	4561.5	3690.8	3475.1	1369.0	240.6	200.5	187.1	173.8
70°	6037.4	5848.4	5361.5	4922.4	4202.5	3572.4	1204.8	202.4	177.6	169.9	162.3
72.5°	6346.7	5668.9	5267.9	4609.2	3885.6	3116.1	922.2	173.8	158.5	154.7	148.9
75°	5577.3	4595.9	4618.8	3662.2	3221.1	2375.3	630.1	148.9	137.5	135.6	133.7
77.5°	3566.7	2361.9	2875.5	1810.1	1859.7	1099.8	307.4	124.1	118.4	118.4	114.6
80°	1267.8	786.7	889.8	570.9	519.3	349.4	166.1	99.3	95.5	97.4	95.5
82.5°	380.0	301.7	296.0	231.0	179.5	147.0	91.6	76.4	72.6	74.5	70.6
85°	152.7	118.4	99.3	76.4	63.0	57.3	49.6	51.6	45.8	49.6	43.9
87.5°	9.5	7.6	5.7	7.6	0.0	3.8	9.5	7.6	1.9	7.6	5.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

CANDELA DISTRIBUTION (continued):

	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°
0°	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1	756.1
2.5°	733.2	719.8	725.6	719.8	723.7	712.2	716.0	706.5	706.5	704.6	695.0
5°	708.4	695.0	693.1	679.7	681.6	666.4	664.5	647.3	647.3	632.0	603.4
7.5°	674.0	653.0	651.1	624.4	622.5	601.5	593.8	574.7	572.8	555.6	538.4
10°	630.1	597.6	591.9	557.5	559.4	536.5	534.6	521.3	521.3	513.6	513.6
12.5°	580.4	544.2	540.4	513.6	515.5	500.3	502.2	494.5	498.3	502.2	515.5
15°	534.6	506.0	502.2	485.0	486.9	483.1	488.8	488.8	494.5	504.1	527.0
17.5°	496.4	471.6	473.5	465.9	473.5	471.6	483.1	481.2	492.6	504.1	532.7
20°	462.1	448.7	454.4	452.5	462.1	462.1	471.6	473.5	483.1	498.3	530.8
22.5°	439.2	435.3	441.1	441.1	448.7	450.6	460.2	465.9	471.6	486.9	515.5
25°	425.8	423.9	429.6	431.5	437.2	439.2	448.7	448.7	458.2	467.8	483.1
27.5°	406.7	402.9	410.5	410.5	418.2	416.2	427.7	423.9	433.4	437.2	441.1
30°	393.3	387.6	393.3	391.4	397.1	391.4	397.1	391.4	397.1	397.1	391.4
32.5°	380.0	374.2	376.1	368.5	374.2	366.6	368.5	360.9	364.7	360.9	362.8
35°	366.6	359.0	359.0	349.4	349.4	339.9	343.7	336.0	343.7	349.4	347.5
37.5°	347.5	341.8	341.8	334.1	338.0	334.1	341.8	338.0	339.9	332.2	318.9
40°	336.0	339.9	338.0	343.7	339.9	334.1	328.4	317.0	315.0	311.2	303.6
42.5°	318.9	322.7	313.1	320.8	315.0	317.0	313.1	307.4	303.6	299.8	292.1
45°	294.0	294.0	286.4	297.9	292.1	303.6	299.8	299.8	296.0	290.2	284.5
47.5°	273.0	274.9	267.3	276.9	273.0	288.3	286.4	292.1	292.1	288.3	273.0
50°	259.7	255.9	250.1	259.7	257.8	271.1	273.0	284.5	282.6	284.5	271.1
52.5°	248.2	240.6	234.9	240.6	240.6	252.0	255.9	269.2	271.1	274.9	267.3
55°	234.9	225.3	221.5	225.3	225.3	236.8	242.5	252.0	257.8	269.2	265.4
57.5°	223.4	210.0	206.2	210.0	211.9	223.4	229.1	238.7	246.3	261.6	259.7
60°	210.0	198.6	194.8	200.5	202.4	213.8	219.6	229.1	234.9	252.0	252.0
62.5°	194.8	185.2	185.2	187.1	190.9	202.4	206.2	219.6	221.5	242.5	244.4
65°	181.4	175.7	175.7	177.6	181.4	190.9	192.8	206.2	208.1	229.1	234.9
67.5°	169.9	166.1	166.1	168.0	169.9	177.6	179.5	192.8	196.7	215.8	225.3
70°	158.5	154.7	152.7	152.7	158.5	164.2	168.0	181.4	183.3	200.5	211.9
72.5°	145.1	141.3	141.3	139.4	145.1	148.9	156.6	164.2	168.0	185.2	192.8
75°	131.7	127.9	127.9	126.0	129.8	137.5	139.4	147.0	148.9	164.2	171.8
77.5°	114.6	110.7	110.7	110.7	114.6	116.5	118.4	126.0	129.8	143.2	150.8
80°	95.5	91.6	93.6	91.6	97.4	89.7	95.5	103.1	106.9	114.6	110.7
82.5°	72.6	66.8	68.7	68.7	70.6	64.9	68.7	72.6	76.4	82.1	80.2
85°	45.8	40.1	43.9	40.1	43.9	38.2	42.0	42.0	45.8	42.0	40.1
87.5°	9.5	3.8	9.5	3.8	11.5	0.0	5.7	0.0	3.8	1.9	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P227588

CATALOG NUMBER: ISS-AF-1000-LED-E1-T2-7060

CANDELA DISTRIBUTION (continued):

	155°	165°	175°	180°
0°	756.1	756.1	756.1	756.1
2.5°	685.5	677.8	674.0	672.1
5°	588.1	574.7	570.9	567.1
7.5°	528.9	525.1	525.1	523.2
10°	517.4	523.2	525.1	525.1
12.5°	530.8	540.4	548.0	548.0
15°	548.0	565.2	574.7	574.7
17.5°	561.4	584.3	593.8	595.7
20°	563.3	586.2	599.5	601.5
22.5°	546.1	561.4	570.9	570.9
25°	502.2	509.8	515.5	515.5
27.5°	446.8	444.9	443.0	450.6
30°	389.5	385.7	378.1	385.7
32.5°	368.5	355.1	336.0	341.8
35°	336.0	332.2	322.7	324.6
37.5°	324.6	357.1	355.1	357.1
40°	311.2	351.3	349.4	353.2
42.5°	299.8	322.7	299.8	301.7
45°	278.8	288.3	269.2	269.2
47.5°	269.2	265.4	257.8	255.9
50°	261.6	261.6	257.8	253.9
52.5°	255.9	252.0	265.4	263.5
55°	248.2	244.4	253.9	253.9
57.5°	242.5	232.9	248.2	248.2
60°	236.8	227.2	242.5	242.5
62.5°	232.9	221.5	240.6	238.7
65°	227.2	215.8	240.6	236.8
67.5°	219.6	204.3	236.8	231.0
70°	204.3	190.9	223.4	208.1
72.5°	189.0	173.8	190.9	177.6
75°	166.1	152.7	154.7	152.7
77.5°	139.4	124.1	120.3	122.2
80°	105.0	95.5	91.6	91.6
82.5°	76.4	64.9	66.8	55.4
85°	34.4	24.8	19.1	19.1
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)