

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: P271518

Luminaire Tested: **ISS-AF-600-LED-E1-T3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P271518
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29759)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-600-LED-E1-T3-7027
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III
Light Source: (16) 2700K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3393 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G1

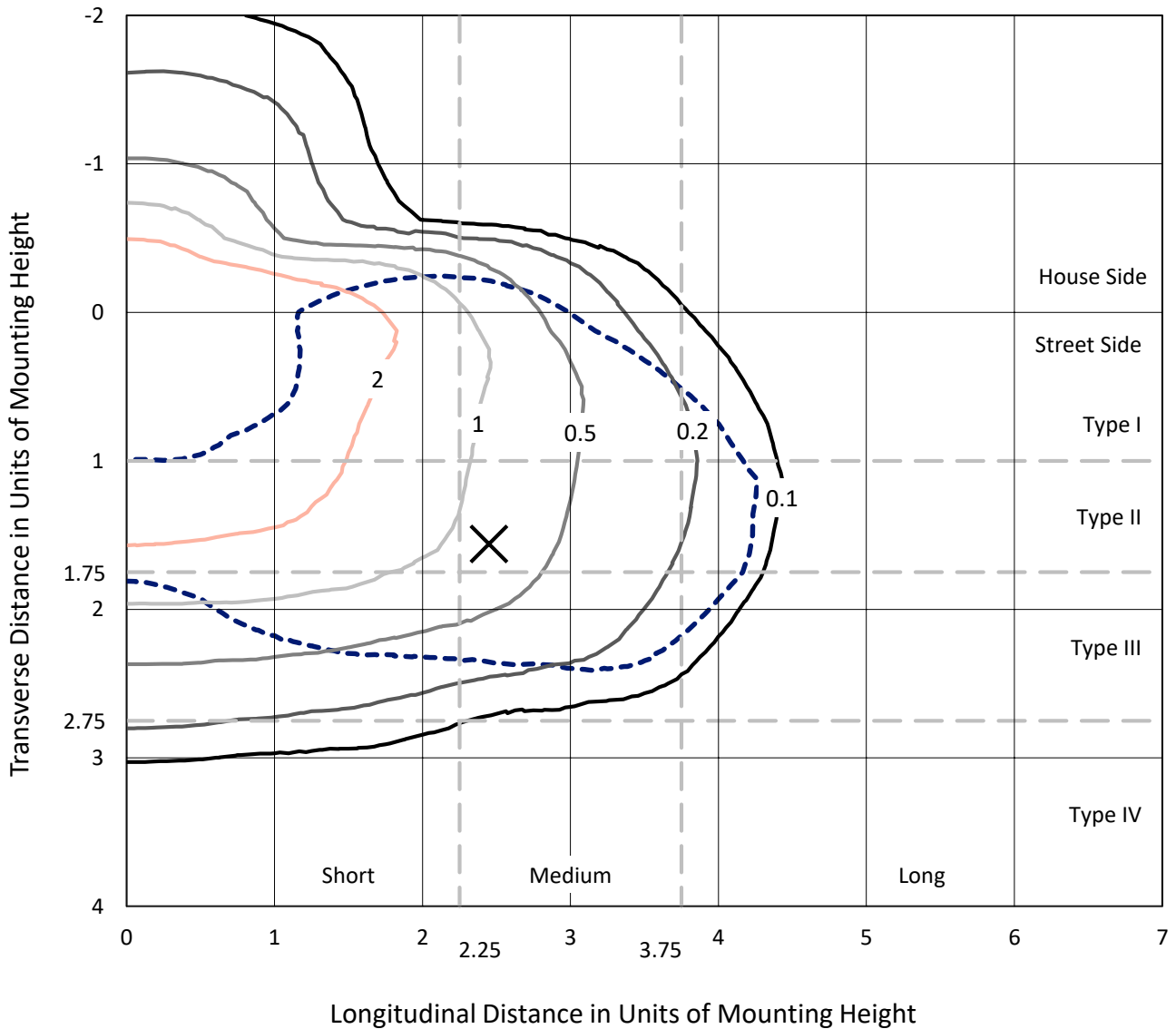
Input Watts (W): 33.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P271518
 CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

Iso-Footcandle Lines of Horizontal Illumination

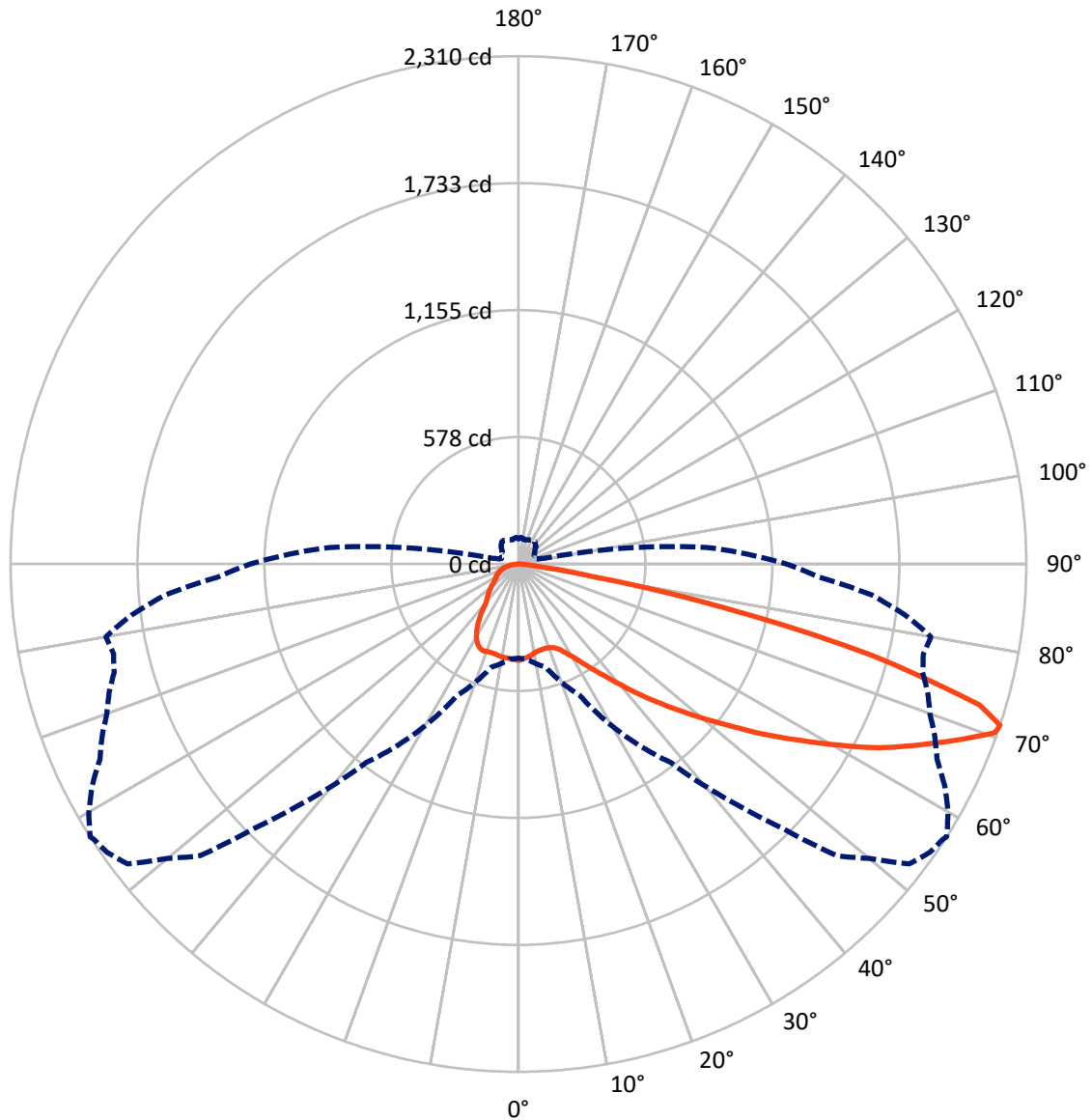
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.4 fc
 Type III - Medium - Semi-Cutoff

REPORT NUMBER: P271518
CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

REPORT NUMBER: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

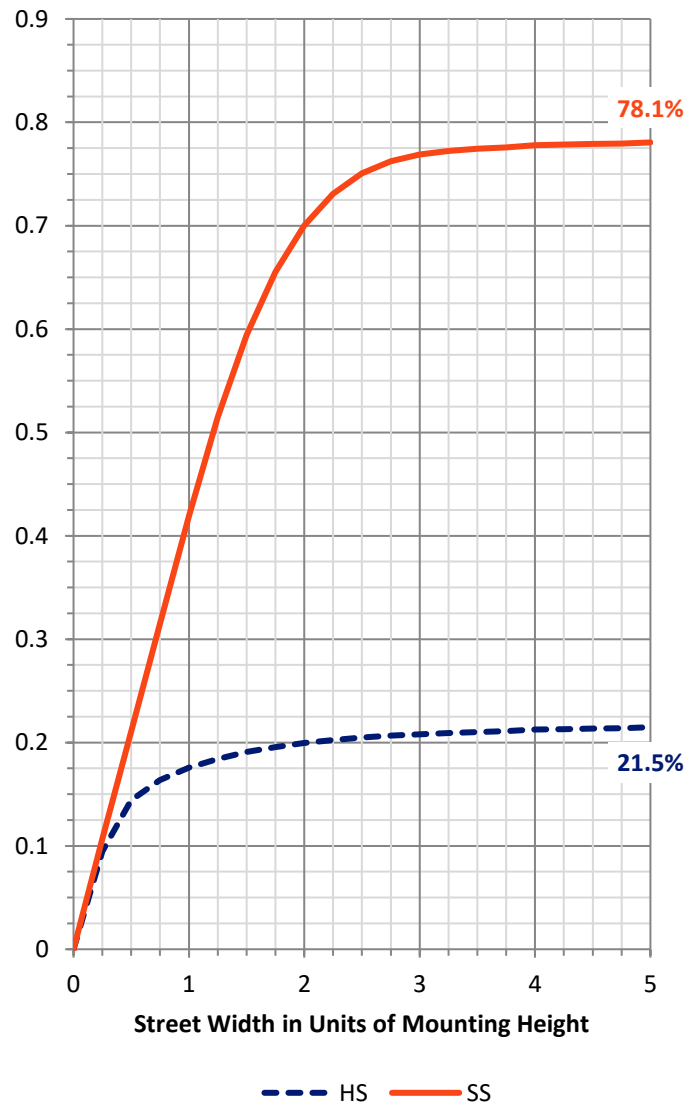
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	738.7	0.0	738.7
	% Fixture	21.8	0.0	21.8
Street Side	Lumens	2654.3	0.0	2654.3
	% Fixture	78.2	0.0	78.2
Total	Lumens	3393.0	0.0	3393.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.3	1.2
10°-20°	118.9	3.5
20°-30°	197.3	5.8
30°-40°	314.1	9.3
40°-50°	510.3	15.0
50°-60°	765.1	22.6
60°-70°	912.8	26.9
70°-80°	493.0	14.5
80°-90°	40.1	1.2
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°	3393.0	100.0
0°-180°	3393.0	100.0



REPORT NUMBER: P271518

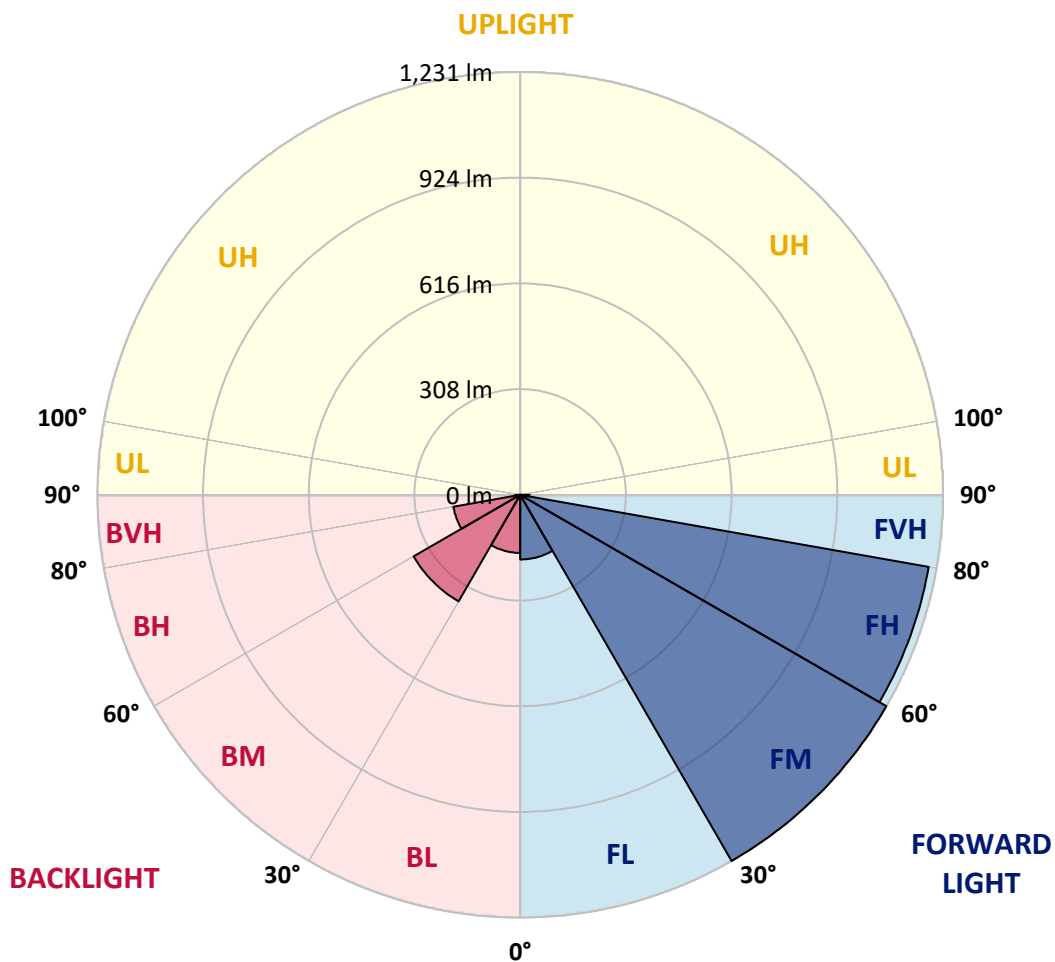
CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	188.2	5.5			
FM	(30°-60°)	1231.4	36.3			
FH	(60°-80°)	1208.2	35.6			G1/1800
FVH	(80°-90°)	26.4	0.8			G1/100
BL	(0°-30°)	169.2	5.0	B1/500		
BM	(30°-60°)	358.2	10.6	B1/1000		
BH	(60°-80°)	197.6	5.8	B1/500		G1/500
BVH	(80°-90°)	13.7	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-G1

Type III Medium





REPORT NUMBER: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4
2.5°	438.4	437.1	436.0	436.0	436.0	435.0	431.5	432.7	436.0	433.8	437.1
5°	437.1	435.0	433.8	433.8	433.8	430.5	429.4	428.2	435.0	429.4	433.8
7.5°	424.9	424.9	422.7	424.9	427.1	423.7	421.6	422.7	428.2	422.7	428.2
10°	415.8	413.7	412.5	412.5	414.7	410.3	408.1	410.3	417.0	410.3	418.1
12.5°	412.5	413.7	410.3	410.3	409.2	403.6	403.6	403.6	409.2	403.6	410.3
15°	418.1	417.0	413.7	411.4	408.1	403.6	402.4	403.6	408.1	401.4	409.2
17.5°	426.0	426.0	420.4	414.7	411.4	406.9	406.9	404.7	408.1	403.6	409.2
20°	446.2	442.9	435.0	426.0	417.0	414.7	410.3	410.3	412.5	408.1	411.4
22.5°	481.0	477.6	464.2	447.3	432.7	427.1	424.9	423.7	421.6	419.3	419.3
25°	526.9	521.3	505.6	485.4	460.7	456.2	451.8	448.4	440.6	440.6	435.0
27.5°	576.3	570.6	553.7	531.3	501.2	494.3	488.8	484.3	470.8	470.8	460.7
30°	632.2	625.5	605.4	580.7	545.9	543.7	535.9	529.1	511.1	510.1	496.7
32.5°	697.3	688.3	668.1	635.6	598.6	599.8	587.4	582.9	559.4	560.5	542.6
35°	771.3	761.1	741.0	698.4	660.3	663.7	652.3	644.6	615.5	615.5	596.4
37.5°	849.8	849.8	823.9	774.6	728.6	736.5	723.0	715.2	686.0	690.5	660.3
40°	937.2	942.8	914.7	858.7	811.6	815.0	804.9	795.9	761.1	768.9	736.5
42.5°	1029.1	1039.2	1014.5	956.2	903.5	914.7	897.9	889.0	852.0	868.8	830.8
45°	1162.5	1164.7	1118.7	1062.8	1018.9	1029.1	1005.6	1002.1	956.2	974.2	936.0
47.5°	1246.6	1241.0	1207.3	1173.7	1147.9	1168.2	1146.8	1141.2	1088.6	1100.9	1047.1
50°	1303.8	1307.1	1281.3	1278.0	1282.5	1320.6	1317.3	1306.0	1243.3	1234.2	1167.0
52.5°	1355.4	1340.7	1336.3	1367.7	1415.9	1460.7	1478.6	1464.1	1395.7	1371.0	1306.0
55°	1346.4	1325.1	1348.5	1424.8	1520.1	1589.6	1591.9	1581.7	1520.1	1510.1	1439.4
57.5°	1285.8	1290.2	1338.6	1447.3	1608.7	1680.4	1692.8	1680.4	1630.0	1639.0	1580.7
60°	1201.8	1210.7	1286.9	1427.0	1679.3	1740.9	1746.6	1761.1	1727.5	1751.1	1710.7
62.5°	1076.2	1088.6	1186.0	1376.7	1630.0	1721.9	1773.4	1807.1	1800.3	1854.2	1832.9
65°	988.8	988.8	1084.1	1318.4	1581.7	1702.8	1780.2	1843.0	1851.9	1937.1	1929.3
67.5°	826.2	831.8	913.7	1155.8	1523.4	1660.2	1776.8	1883.4	1937.1	2071.6	2078.4
70°	571.7	576.3	630.0	825.0	1230.9	1347.5	1519.0	1692.8	1854.2	2057.1	2162.5
71°	428.2	433.8	486.5	658.1	1042.6	1139.1	1317.3	1497.7	1700.6	1964.1	2082.9
72.5°	209.7	213.0	264.6	422.7	725.3	848.6	951.8	1124.4	1339.6	1641.2	1809.4
75°	97.6	98.6	109.9	152.4	276.9	329.6	375.5	486.5	619.9	884.5	1088.6
77.5°	71.8	71.8	78.5	99.8	143.5	145.7	143.5	146.9	177.1	253.3	381.2
80°	52.7	52.7	57.2	67.2	95.3	95.3	92.0	93.1	89.7	93.1	105.4
82.5°	34.8	34.8	37.0	40.3	58.3	58.3	56.1	56.1	53.8	52.7	57.2
85°	20.2	21.3	22.4	19.0	24.6	23.5	21.3	23.5	22.4	20.2	24.6
87.5°	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.1	0.0	1.1
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: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

CANDELA DISTRIBUTION (continued):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4
2.5°	432.7	436.0	436.0	431.5	435.0	431.5	433.8	430.5	433.8	428.2	435.0
5°	429.4	432.7	432.7	426.0	432.7	426.0	431.5	423.7	431.5	422.7	431.5
7.5°	420.4	428.2	428.2	419.3	427.1	420.4	427.1	419.3	426.0	415.8	427.1
10°	410.3	418.1	419.3	410.3	419.3	411.4	421.6	411.4	421.6	410.3	422.7
12.5°	403.6	412.5	414.7	404.7	415.8	405.9	418.1	406.9	418.1	405.9	420.4
15°	402.4	410.3	412.5	403.6	413.7	402.4	417.0	403.6	418.1	404.7	421.6
17.5°	403.6	410.3	412.5	402.4	412.5	403.6	415.8	404.7	418.1	405.9	421.6
20°	406.9	411.4	411.4	405.9	413.7	405.9	415.8	404.7	419.3	408.1	422.7
22.5°	417.0	418.1	418.1	413.7	418.1	412.5	420.4	412.5	422.7	413.7	427.1
25°	433.8	432.7	430.5	429.4	430.5	427.1	431.5	426.0	436.0	428.2	441.7
27.5°	463.0	458.6	456.2	456.2	455.1	456.2	456.2	454.0	458.6	456.2	465.2
30°	498.9	491.0	487.6	491.0	486.5	491.0	489.8	488.8	493.3	491.0	498.9
32.5°	545.9	532.4	530.3	537.0	528.0	535.9	529.1	532.4	535.9	538.1	542.6
35°	600.9	585.2	582.9	589.6	579.6	590.7	582.9	587.4	589.6	595.3	598.6
37.5°	665.9	646.8	643.5	652.3	639.0	651.3	640.1	653.6	650.2	658.1	661.4
40°	744.3	722.0	714.2	726.4	710.6	720.8	709.6	724.1	720.8	736.5	739.8
42.5°	840.7	808.3	800.4	812.8	789.3	792.6	783.6	800.4	798.1	819.4	822.8
45°	940.5	901.3	890.1	902.4	875.5	882.2	868.8	886.8	885.5	902.4	915.9
47.5°	1051.6	1003.4	988.8	1002.1	969.7	977.5	964.2	983.1	984.3	1003.4	1016.8
50°	1167.0	1116.5	1097.5	1109.9	1079.5	1085.2	1071.7	1095.2	1094.1	1119.8	1130.0
52.5°	1292.5	1241.0	1226.4	1232.0	1196.1	1202.9	1191.6	1220.8	1214.1	1229.8	1249.9
55°	1431.6	1372.1	1355.4	1372.1	1329.5	1338.6	1323.9	1350.8	1339.6	1359.9	1365.4
57.5°	1573.9	1515.6	1502.1	1514.5	1474.2	1480.9	1461.8	1484.2	1475.3	1488.7	1497.7
60°	1725.3	1672.6	1659.1	1672.6	1633.4	1634.5	1601.9	1625.6	1612.1	1628.9	1625.6
62.5°	1869.9	1825.1	1821.7	1840.8	1791.4	1785.8	1746.6	1763.4	1744.3	1755.6	1742.0
65°	1993.2	1967.4	1971.9	1987.6	1943.8	1930.4	1885.5	1894.5	1866.5	1866.5	1849.7
67.5°	2154.7	2126.6	2126.6	2140.0	2085.1	2050.3	1988.7	1980.9	1934.9	1926.0	1886.7
70°	2289.2	2297.0	2288.1	2299.2	2234.3	2163.6	2081.7	2042.6	1982.0	1952.8	1906.8
71°	2240.9	2285.7	2301.5	2310.4	2256.6	2185.9	2100.8	2050.3	1992.1	1952.8	1903.5
72.5°	2022.4	2131.0	2192.8	2192.8	2199.5	2154.7	2072.7	2017.9	1951.7	1900.2	1854.2
75°	1417.0	1594.1	1673.7	1664.6	1722.9	1743.3	1749.9	1726.5	1689.4	1615.4	1582.9
77.5°	631.1	831.8	951.8	952.9	1015.6	1070.6	1114.3	1160.3	1143.5	1107.6	1105.4
80°	143.5	260.1	332.9	336.3	393.5	443.9	474.1	520.2	525.8	474.1	445.0
82.5°	61.6	72.9	82.9	81.8	100.9	121.1	143.5	155.9	150.3	124.4	117.7
85°	25.8	33.7	35.8	33.7	41.5	45.9	53.8	55.0	63.9	57.2	60.5
87.5°	0.0	1.1	1.1	0.0	2.2	0.0	2.2	1.1	5.6	2.2	6.7
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: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

CANDELA DISTRIBUTION (continued):

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4
2.5°	430.5	436.0	430.5	436.0	432.7	436.0	435.0	436.0	430.5	436.0	429.4
5°	422.7	431.5	423.7	430.5	423.7	431.5	431.5	431.5	423.7	432.7	424.9
7.5°	415.8	426.0	415.8	426.0	419.3	427.1	427.1	430.5	421.6	431.5	420.4
10°	409.2	421.6	409.2	423.7	412.5	424.9	426.0	428.2	415.8	429.4	418.1
12.5°	405.9	421.6	406.9	421.6	408.1	424.9	426.0	428.2	414.7	431.5	417.0
15°	405.9	422.7	406.9	422.7	408.1	424.9	427.1	429.4	414.7	432.7	417.0
17.5°	405.9	422.7	409.2	423.7	410.3	426.0	428.2	430.5	417.0	432.7	419.3
20°	409.2	424.9	411.4	427.1	413.7	429.4	430.5	433.8	419.3	433.8	421.6
22.5°	417.0	430.5	419.3	433.8	423.7	436.0	437.1	440.6	429.4	441.7	431.5
25°	430.5	445.0	436.0	447.3	441.7	451.8	454.0	454.0	449.5	457.3	454.0
27.5°	458.6	469.7	463.0	473.0	469.7	477.6	477.6	478.7	482.0	484.3	487.6
30°	494.3	502.2	500.0	505.6	506.7	511.1	511.1	518.0	531.3	518.0	516.7
32.5°	542.6	547.1	548.1	550.4	555.0	558.3	562.8	570.6	581.8	550.4	540.3
35°	602.0	603.1	606.4	609.8	617.7	619.9	634.6	628.9	628.9	579.6	558.3
37.5°	667.0	667.0	676.0	676.0	695.1	696.2	710.6	681.5	664.7	600.9	569.4
40°	748.8	747.7	757.8	760.1	785.8	786.9	784.7	720.8	685.0	606.4	563.9
42.5°	835.2	838.6	852.0	856.4	875.5	882.2	854.2	747.7	693.9	603.1	544.8
45°	929.4	936.0	952.9	965.2	985.4	977.5	910.3	760.1	683.8	582.9	507.8
47.5°	1032.4	1039.2	1052.6	1076.2	1085.2	1076.2	956.2	764.5	668.1	551.6	454.0
50°	1136.7	1147.9	1167.0	1200.7	1205.1	1182.7	1012.3	781.3	655.9	519.0	392.4
52.5°	1254.4	1265.6	1288.1	1344.1	1332.9	1286.9	1078.4	812.8	659.2	498.9	339.6
55°	1378.9	1394.6	1438.3	1493.3	1468.5	1396.9	1151.3	858.7	672.7	477.6	281.3
57.5°	1510.1	1526.8	1584.0	1649.0	1600.8	1504.4	1225.3	894.6	679.4	433.8	217.5
60°	1640.0	1663.6	1737.6	1791.4	1716.3	1596.4	1291.4	918.1	661.4	350.9	168.2
62.5°	1758.9	1797.0	1880.0	1909.1	1789.2	1654.7	1327.2	901.3	588.5	242.1	135.6
65°	1843.0	1892.3	1946.1	1942.8	1775.7	1635.5	1300.4	823.9	438.4	160.3	115.4
67.5°	1878.8	1924.8	1937.1	1880.0	1679.3	1551.6	1204.0	663.7	252.2	119.9	100.9
70°	1892.3	1931.5	1862.1	1724.2	1491.0	1345.2	984.3	422.7	137.9	97.6	87.5
71°	1886.7	1905.8	1773.4	1612.1	1371.0	1218.6	863.2	321.8	117.7	90.8	82.9
72.5°	1810.4	1783.6	1579.5	1400.2	1162.5	1007.8	671.6	202.8	96.4	81.8	77.3
75°	1479.8	1358.7	1162.5	993.3	791.5	633.3	364.4	104.2	77.3	70.7	67.2
77.5°	967.5	862.0	700.7	569.4	432.7	328.5	149.1	71.8	61.6	59.4	58.3
80°	345.3	276.9	209.7	183.8	139.0	114.4	72.9	55.0	48.1	49.4	48.1
82.5°	97.6	89.7	77.3	71.8	62.8	61.6	47.1	41.5	38.1	40.3	39.3
85°	48.1	41.5	30.3	29.1	22.4	25.8	23.5	28.0	24.6	25.8	23.5
87.5°	3.3	4.5	1.1	3.3	0.0	3.3	4.5	5.6	1.1	4.5	3.3
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: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

CANDELA DISTRIBUTION (continued):

	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°
0°	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4	438.4
2.5°	437.1	432.7	438.4	432.7	438.4	435.0	438.4	435.0	438.4	440.6	440.6
5°	435.0	427.1	437.1	431.5	438.4	432.7	437.1	433.8	439.5	441.7	443.9
7.5°	433.8	426.0	436.0	428.2	438.4	430.5	437.1	432.7	439.5	441.7	446.2
10°	432.7	422.7	436.0	424.9	437.1	429.4	437.1	430.5	438.4	440.6	441.7
12.5°	432.7	421.6	436.0	423.7	437.1	426.0	436.0	426.0	437.1	436.0	432.7
15°	433.8	419.3	436.0	421.6	436.0	422.7	435.0	421.6	432.7	429.4	427.1
17.5°	433.8	419.3	435.0	420.4	433.8	421.6	431.5	419.3	429.4	428.2	424.9
20°	436.0	421.6	435.0	424.9	435.0	422.7	430.5	419.3	427.1	420.4	406.9
22.5°	442.9	432.7	442.9	432.7	437.1	426.0	429.4	415.8	414.7	403.6	382.3
25°	458.6	454.0	451.8	439.5	436.0	421.6	417.0	401.4	395.7	378.9	349.8
27.5°	478.7	468.6	455.1	440.6	426.0	408.1	395.7	383.4	371.1	349.8	312.8
30°	492.1	477.6	449.5	429.4	402.4	387.9	366.6	353.1	335.2	308.3	272.4
32.5°	501.2	478.7	436.0	412.5	376.7	357.6	329.6	315.0	289.3	263.5	237.6
35°	503.3	474.1	418.1	392.4	345.3	324.0	287.0	271.3	246.7	228.7	218.6
37.5°	494.3	458.6	390.1	356.4	305.0	280.2	245.5	234.3	219.7	213.0	208.5
40°	476.4	428.2	346.4	307.2	254.5	235.4	217.5	217.5	209.7	206.3	198.4
42.5°	443.9	383.4	290.3	252.2	216.3	213.0	202.8	207.4	201.8	199.5	188.4
45°	393.5	319.4	234.3	211.9	195.0	197.3	190.6	195.0	191.7	190.6	177.1
47.5°	328.5	254.5	197.3	189.5	178.2	181.5	176.0	181.5	178.2	179.3	169.3
50°	262.3	206.3	174.9	170.4	162.5	164.7	161.4	167.1	165.8	170.4	164.7
52.5°	209.7	176.0	155.9	152.4	148.0	149.1	148.0	153.6	154.7	163.7	163.7
55°	173.7	151.4	140.1	139.0	134.6	135.6	136.7	142.4	146.9	158.0	163.7
57.5°	149.1	135.6	127.8	126.8	124.4	125.5	127.8	134.6	139.0	153.6	165.8
60°	131.2	123.2	117.7	117.7	115.4	117.7	119.9	126.8	132.3	149.1	161.4
62.5°	117.7	112.1	108.8	109.9	108.8	111.0	113.3	119.9	126.8	142.4	154.7
65°	105.4	102.0	99.8	100.9	100.9	104.2	106.4	113.3	118.8	133.4	149.1
67.5°	95.3	93.1	92.0	93.1	94.1	97.6	100.9	105.4	109.9	123.2	141.2
70°	87.5	85.2	85.2	85.2	86.2	89.7	94.1	96.4	100.9	115.4	132.3
71°	82.9	81.8	81.8	81.8	82.9	86.2	90.8	93.1	97.6	112.1	127.8
72.5°	77.3	77.3	78.5	77.3	79.6	80.7	85.2	87.5	93.1	107.5	122.2
75°	68.5	68.5	69.5	69.5	71.8	71.8	75.1	77.3	84.1	96.4	109.9
77.5°	60.5	60.5	62.8	61.6	61.6	59.4	63.9	66.1	71.8	84.1	97.6
80°	51.6	50.5	52.7	49.4	48.1	45.9	49.4	52.7	61.6	69.5	71.8
82.5°	40.3	37.0	38.1	34.8	34.8	32.5	35.8	37.0	42.6	50.5	55.0
85°	24.6	20.2	22.4	19.0	21.3	19.0	20.2	21.3	25.8	31.4	30.3
87.5°	5.6	3.3	4.5	1.1	3.3	0.0	3.3	1.1	3.3	1.1	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: P271518

CATALOG NUMBER: ISS-AF-600-LED-E1-T3-7027

CANDELA DISTRIBUTION (continued):

	155°	165°	175°	180°
0°	438.4	438.4	438.4	438.4
2.5°	442.9	441.7	442.9	441.7
5°	448.4	448.4	449.5	450.7
7.5°	449.5	451.8	454.0	452.8
10°	441.7	439.5	441.7	439.5
12.5°	429.4	427.1	429.4	429.4
15°	428.2	427.1	428.2	428.2
17.5°	420.4	414.7	412.5	411.4
20°	397.9	387.9	385.6	382.3
22.5°	366.6	352.0	347.6	344.1
25°	328.5	308.3	300.4	295.9
27.5°	287.0	266.8	258.9	258.9
30°	254.5	238.8	231.0	231.0
32.5°	231.0	222.0	216.3	217.5
35°	211.9	206.3	202.8	204.1
37.5°	199.5	190.6	182.7	182.7
40°	187.2	176.0	165.8	165.8
42.5°	176.0	164.7	158.0	156.9
45°	164.7	156.9	151.4	150.3
47.5°	159.2	152.4	146.9	145.7
50°	156.9	150.3	142.4	142.4
52.5°	159.2	153.6	139.0	139.0
55°	163.7	160.3	139.0	136.7
57.5°	159.2	153.6	140.1	136.7
60°	149.1	140.1	137.9	135.6
62.5°	142.4	133.4	137.9	136.7
65°	136.7	130.1	140.1	137.9
67.5°	131.2	124.4	140.1	135.6
70°	124.4	117.7	127.8	119.9
71°	121.1	113.3	121.1	114.4
72.5°	115.4	106.4	108.8	104.2
75°	104.2	95.3	93.1	92.0
77.5°	86.2	76.3	72.9	71.8
80°	66.1	59.4	59.4	56.1
82.5°	49.4	43.7	42.6	37.0
85°	25.8	20.2	16.8	16.8
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)