

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: P227983

Luminaire Tested: **ISS-AF-1000-LED-E1-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227983
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29757)
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-T4W-7050
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5783 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

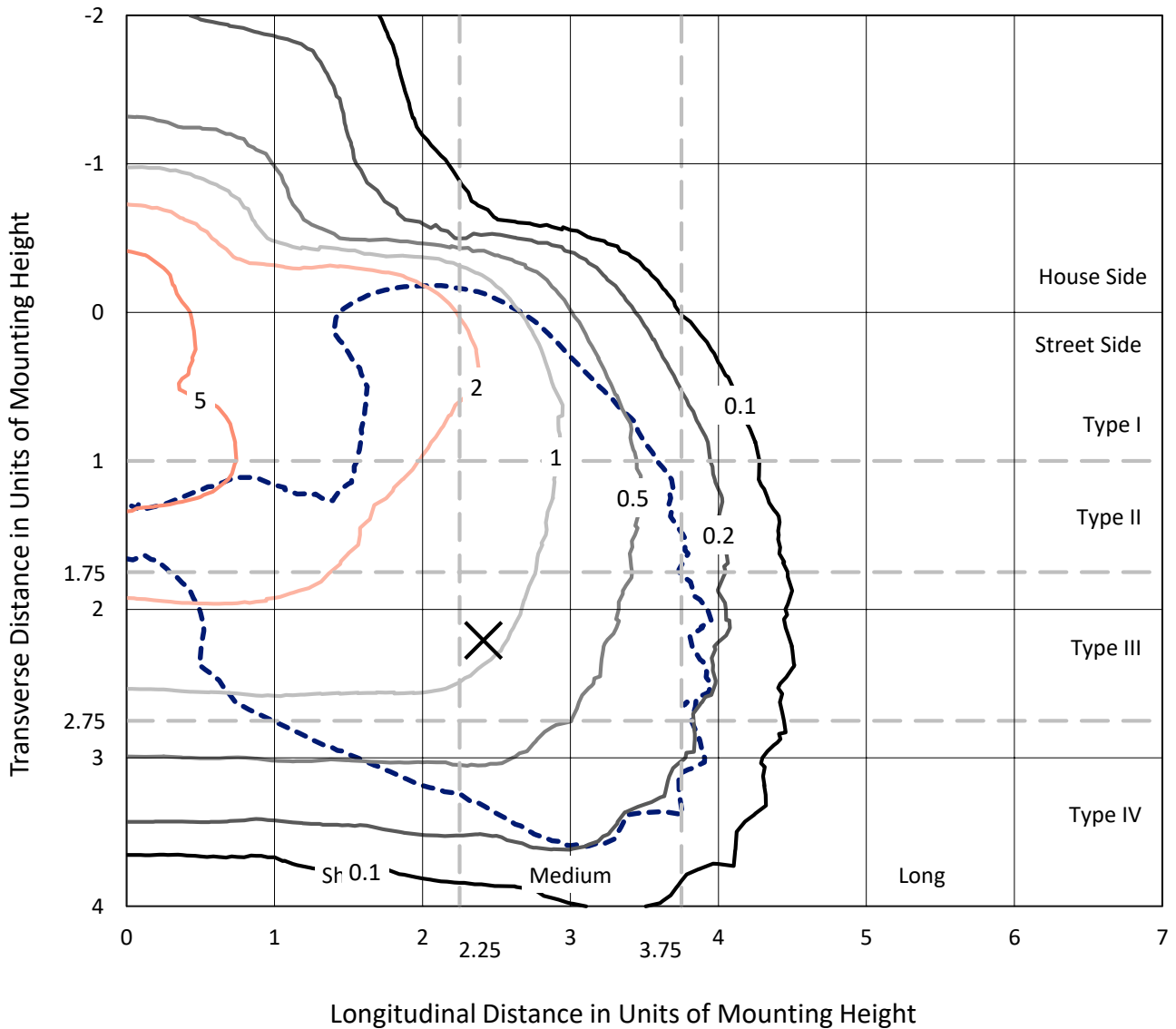
Input Watts (W): 54.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P227983
 CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

Iso-Footcandle Lines of Horizontal Illumination

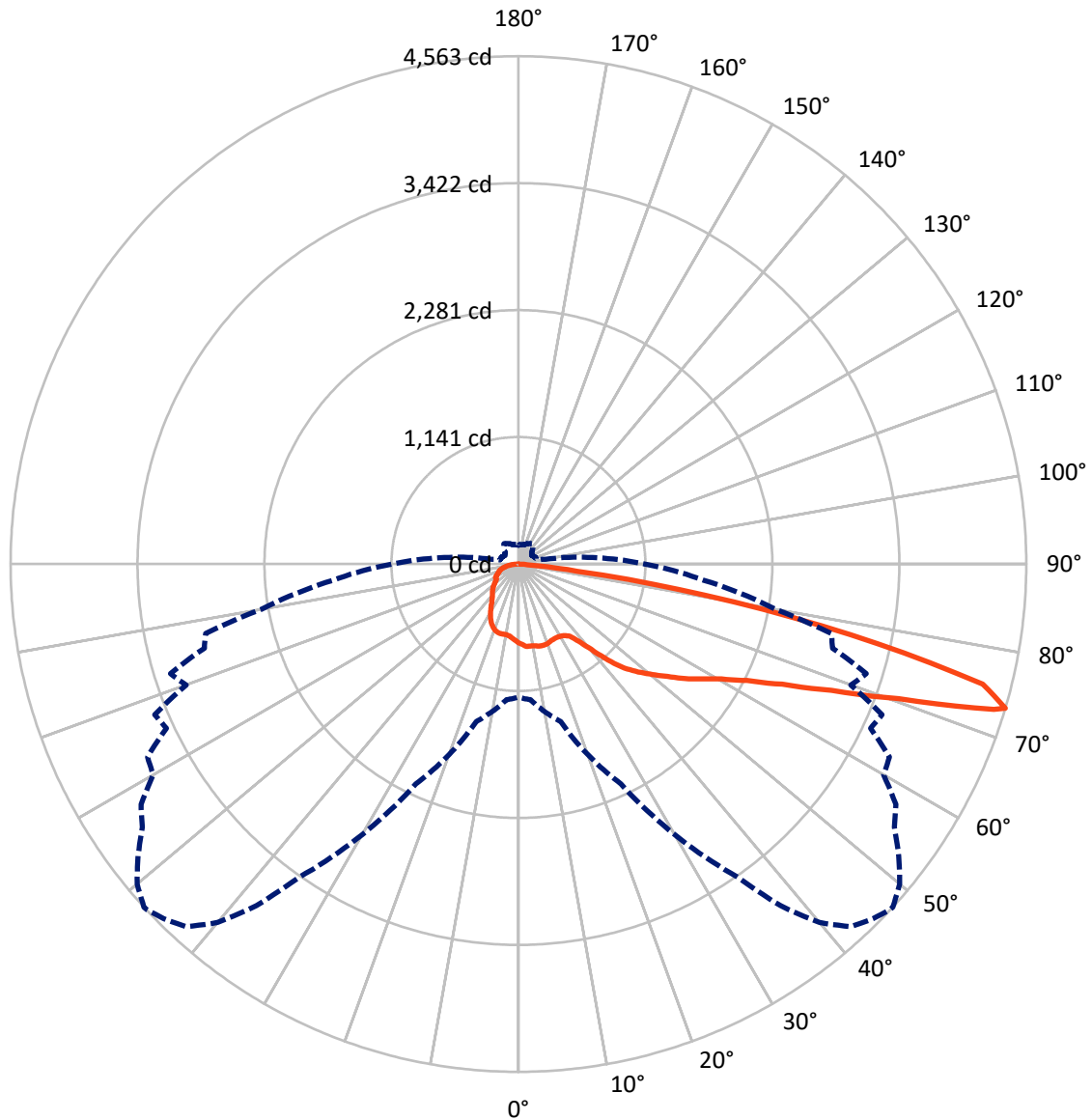
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.2 fc
 Type IV - Medium - Non-Cutoff

REPORT NUMBER: P227983
CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

Luminous Intensity Polar Plot



— Vertical Plane Through 47.5-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

REPORT NUMBER: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1155.4	0.0	1155.4
	% Fixture	20.0	0.0	20.0
Street Side	Lumens	4627.6	0.0	4627.6
	% Fixture	80.0	0.0	80.0
Total	Lumens	5783.0	0.0	5783.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.6	1.2
10°-20°	201.2	3.5
20°-30°	309.3	5.3
30°-40°	451.2	7.8
40°-50°	744.0	12.9
50°-60°	1164.9	20.1
60°-70°	1580.2	27.3
70°-80°	1170.1	20.2
80°-90°	94.5	1.6
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°	5783.0	100.0
0°-180°	5783.0	100.0



REPORT NUMBER: P227983

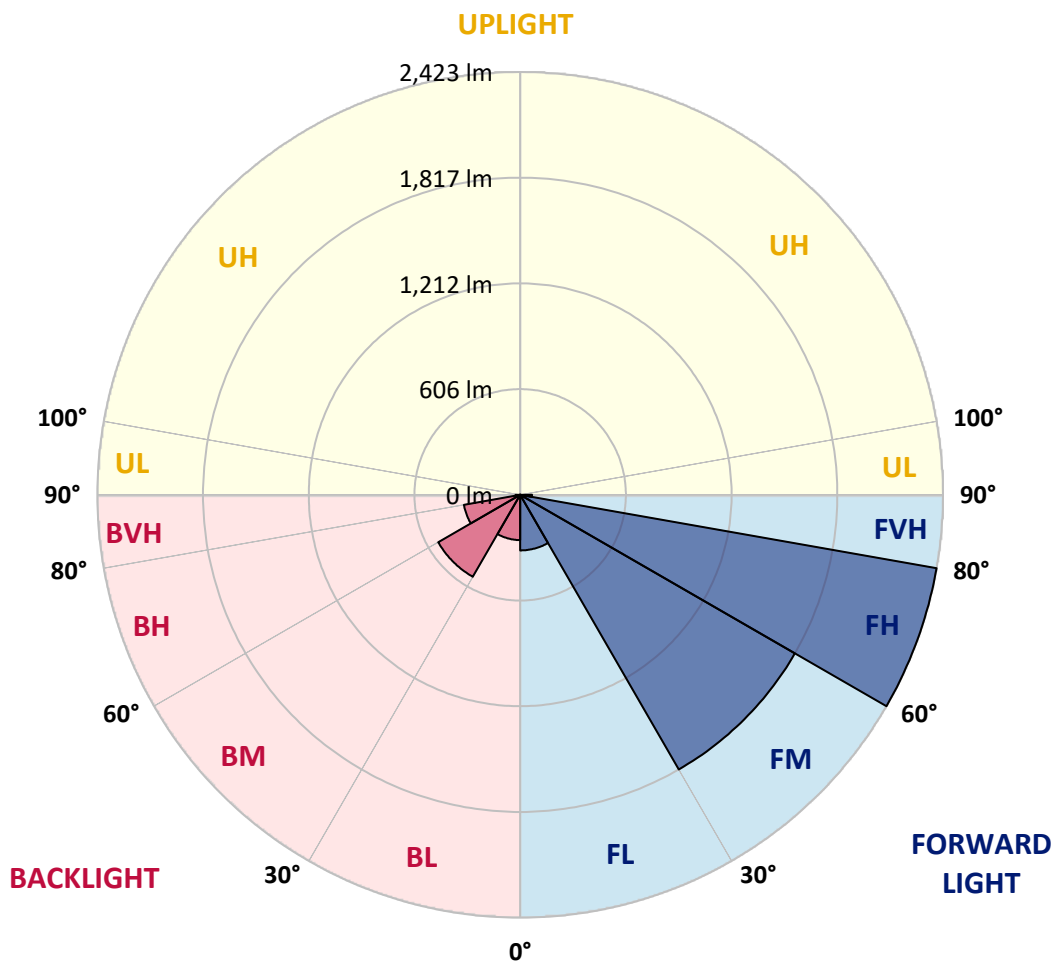
CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	318.8	5.5			
FM	(30°-60°)	1817.5	31.4			
FH	(60°-80°)	2423.1	41.9			G2/5000
FVH	(80°-90°)	68.2	1.2			G1/100
BL	(0°-30°)	259.3	4.5	B1/500		
BM	(30°-60°)	542.5	9.4	B1/1000		
BH	(60°-80°)	327.2	5.7	B1/500		G1/500
BVH	(80°-90°)	26.3	0.5			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 IV Medium





REPORT NUMBER: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47°	47.5°
0°	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2
2.5°	752.2	750.2	744.5	742.6	736.9	733.1	731.2	729.2	735.0	731.2	725.4
5°	799.9	796.1	788.4	777.0	765.5	757.9	756.0	752.2	752.2	748.3	744.5
7.5°	834.2	832.3	820.9	803.7	784.6	771.2	763.6	757.9	759.8	756.0	744.5
10°	866.7	862.9	843.8	822.8	794.2	778.9	769.3	759.8	767.4	761.7	746.4
12.5°	891.5	887.7	861.0	834.2	801.8	784.6	775.1	769.3	777.0	773.2	756.0
15°	904.9	901.1	874.3	841.9	807.5	788.4	784.6	780.8	786.5	778.9	763.6
17.5°	897.2	897.2	872.4	838.1	809.4	790.3	784.6	780.8	788.4	780.8	763.6
20°	868.6	872.4	855.2	819.0	798.0	784.6	778.9	771.2	778.9	771.2	759.8
22.5°	832.3	836.1	826.6	794.2	778.9	769.3	767.4	759.8	765.5	759.8	748.3
25°	799.9	799.9	796.1	767.4	765.5	757.9	759.8	756.0	759.8	752.2	744.5
27.5°	801.8	801.8	786.5	757.9	756.0	756.0	756.0	756.0	757.9	752.2	744.5
30°	914.4	918.2	874.3	794.2	765.5	761.7	763.6	761.7	763.6	761.7	752.2
32.5°	1084.3	1084.3	1042.3	918.2	817.1	792.2	782.7	780.8	775.1	773.2	765.5
35°	1252.3	1250.4	1208.4	1071.0	943.1	895.3	864.8	836.1	822.8	809.4	796.1
37.5°	1393.6	1387.9	1382.1	1225.6	1092.0	1036.6	1000.3	958.3	931.6	908.7	878.1
40°	1525.3	1534.8	1555.8	1368.8	1240.9	1189.3	1153.0	1099.6	1072.9	1044.2	1008.0
42.5°	1706.7	1720.0	1721.9	1523.4	1376.4	1342.0	1313.4	1273.3	1244.7	1210.3	1177.9
45°	1882.3	1884.2	1889.9	1689.5	1542.5	1498.6	1477.6	1439.4	1403.1	1359.2	1332.5
47.5°	2002.6	1996.8	2021.6	1880.4	1737.2	1687.6	1657.0	1599.8	1544.4	1489.0	1448.9
50°	2149.6	2143.8	2143.8	2098.0	1962.5	1905.2	1851.7	1744.8	1685.7	1616.9	1559.7
52.5°	2279.4	2258.4	2271.7	2298.5	2199.2	2126.6	2033.1	1912.8	1834.6	1750.6	1678.0
55°	2456.9	2348.1	2378.6	2472.2	2434.0	2321.4	2197.3	2069.4	1979.6	1884.2	1817.4
57.5°	2395.8	2321.4	2411.1	2575.3	2573.4	2468.4	2363.4	2206.8	2117.1	2027.4	1945.3
60°	2176.3	2214.5	2409.2	2645.9	2655.4	2573.4	2487.4	2342.4	2271.7	2178.2	2096.1
62.5°	2006.4	2061.7	2329.0	2640.2	2749.0	2672.6	2602.0	2516.1	2466.4	2388.2	2304.2
65°	1996.8	2029.3	2288.9	2634.4	2880.7	2840.6	2808.2	2768.1	2758.5	2701.3	2603.9
67.5°	2088.5	2119.0	2357.6	2781.4	3075.4	3058.2	3106.0	3098.3	3140.3	3111.7	3031.5
70°	1909.0	1926.2	2220.2	2833.0	3520.2	3596.6	3703.5	3697.8	3787.5	3718.8	3625.2
72.5°	1340.1	1374.5	1634.1	2340.5	3529.8	3938.3	4186.5	4396.5	4493.8	4511.0	4467.1
73°	1197.0	1223.7	1464.2	2180.1	3434.3	3869.6	4203.7	4419.4	4505.3	4558.7	4562.5
75°	416.2	429.5	639.5	1321.0	2745.2	3377.0	3806.6	4001.3	3980.3	4136.8	4308.6
77.5°	133.6	135.5	166.1	341.7	1324.9	2096.1	2575.3	2754.7	2651.6	2821.5	3050.6
80°	82.1	85.9	108.8	154.6	347.4	635.7	1076.7	1347.8	1292.4	1450.9	1695.2
82.5°	49.6	51.5	66.8	95.5	139.4	154.6	202.4	274.9	337.9	406.6	532.6
85°	22.9	24.8	32.5	43.9	57.3	59.2	57.3	53.5	61.1	70.6	82.1
87.5°	0.0	0.0	1.9	3.8	1.9	0.0	0.0	0.0	0.0	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: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2
2.5°	731.2	725.4	725.4	717.8	721.6	714.0	717.8	710.2	714.0	704.4	710.2
5°	742.6	733.1	733.1	721.6	723.5	710.2	715.9	700.6	708.2	691.1	702.5
7.5°	748.3	731.2	738.8	717.8	727.3	704.4	715.9	691.1	706.3	679.6	698.7
10°	756.0	731.2	744.5	721.6	733.1	706.3	721.6	691.1	710.2	677.7	694.9
12.5°	767.4	740.7	752.2	725.4	740.7	710.2	725.4	694.9	714.0	677.7	698.7
15°	775.1	748.3	759.8	733.1	744.5	710.2	729.2	693.0	714.0	675.8	698.7
17.5°	773.2	748.3	759.8	729.2	742.6	708.2	727.3	691.1	710.2	670.1	694.9
20°	765.5	744.5	752.2	725.4	736.9	702.5	719.7	683.4	704.4	664.3	689.2
22.5°	756.0	735.0	744.5	719.7	731.2	696.8	712.1	679.6	700.6	660.5	683.4
25°	750.2	733.1	738.8	714.0	729.2	698.7	714.0	677.7	700.6	660.5	687.2
27.5°	748.3	733.1	744.5	721.6	735.0	708.2	723.5	691.1	710.2	668.2	694.9
30°	759.8	746.4	756.0	736.9	748.3	721.6	736.9	706.3	725.4	685.3	715.9
32.5°	773.2	759.8	769.3	752.2	769.3	742.6	761.7	731.2	754.1	714.0	742.6
35°	801.8	786.5	799.9	780.8	799.9	778.9	799.9	767.4	796.1	756.0	786.5
37.5°	876.2	834.2	847.6	826.6	845.7	819.0	855.2	822.8	855.2	817.1	859.1
40°	994.6	920.1	933.5	889.6	918.2	878.1	922.1	897.2	941.1	893.4	946.9
42.5°	1149.2	1078.6	1065.2	998.4	1023.2	975.5	1019.4	975.5	1034.7	988.9	1055.7
45°	1290.5	1216.0	1195.0	1130.1	1147.3	1084.3	1139.7	1078.6	1156.9	1103.4	1187.4
47.5°	1406.9	1319.1	1301.9	1227.5	1258.0	1198.9	1267.6	1202.7	1298.1	1244.7	1342.0
50°	1513.8	1405.0	1401.2	1321.0	1372.6	1313.4	1410.8	1366.9	1460.4	1406.9	1521.5
52.5°	1636.0	1498.6	1517.7	1445.1	1527.2	1477.6	1590.2	1527.2	1649.4	1592.1	1718.1
55°	1765.8	1620.8	1670.4	1626.5	1723.8	1691.4	1786.8	1729.6	1849.8	1792.6	1926.2
57.5°	1909.0	1784.9	1872.7	1851.7	1937.6	1897.6	2004.5	1952.9	2073.2	2025.5	2159.1
60°	2096.1	2014.0	2099.9	2098.0	2172.5	2170.5	2239.3	2208.7	2323.3	2302.3	2424.4
62.5°	2338.5	2273.6	2365.3	2340.5	2430.2	2414.9	2498.9	2498.9	2581.0	2609.6	2731.8
65°	2665.0	2579.1	2687.9	2649.7	2739.4	2743.3	2796.7	2806.3	2905.5	2938.0	3043.0
67.5°	3107.9	3008.6	3094.5	3022.0	3125.1	3119.3	3165.1	3184.2	3197.6	3275.9	3287.3
70°	3745.5	3596.6	3674.9	3575.6	3594.7	3608.0	3522.1	3585.1	3432.4	3556.5	3388.5
72.5°	4434.6	4264.7	4129.2	4029.9	3833.3	3804.7	3554.6	3608.0	3283.5	3390.4	3050.6
73°	4470.9	4306.7	4123.5	4020.4	3787.5	3756.9	3489.7	3535.5	3176.6	3277.8	2920.8
75°	4064.3	4108.2	3667.2	3709.2	3304.5	3352.2	2934.2	2987.6	2546.6	2623.0	2162.9
77.5°	2739.4	2886.4	2392.0	2577.2	2075.1	2260.3	1693.3	1710.5	1248.5	1166.4	792.2
80°	1357.3	1483.3	1051.9	1149.2	771.2	757.9	462.0	383.7	326.4	334.1	343.6
82.5°	391.3	441.0	273.0	271.1	192.8	183.3	183.3	194.7	198.5	221.4	215.7
85°	74.5	89.7	78.3	105.0	93.5	103.1	95.5	110.7	103.1	127.9	110.7
87.5°	1.9	0.0	1.9	5.7	5.7	13.4	9.5	15.3	15.3	26.7	24.8
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: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2
2.5°	702.5	712.1	708.2	704.4	700.6	698.7	691.1	694.9	685.3	693.0	685.3
5°	687.2	698.7	693.0	685.3	681.5	677.7	664.3	673.9	658.6	672.0	660.5
7.5°	670.1	689.2	683.4	675.8	668.2	664.3	637.6	658.6	635.7	654.8	635.7
10°	664.3	685.3	677.7	668.2	660.5	656.7	624.2	649.1	624.2	645.2	620.4
12.5°	660.5	685.3	673.9	664.3	656.7	651.0	614.7	645.2	612.8	643.3	614.7
15°	656.7	685.3	670.1	658.6	651.0	645.2	607.1	641.4	605.2	639.5	607.1
17.5°	652.9	679.6	666.2	652.9	645.2	641.4	599.4	635.7	597.5	635.7	603.2
20°	647.2	673.9	658.6	645.2	637.6	631.9	589.9	628.1	588.0	626.2	589.9
22.5°	639.5	668.2	654.8	641.4	633.8	624.2	578.4	618.5	576.5	614.7	580.3
25°	641.4	672.0	654.8	641.4	630.0	620.4	570.8	614.7	567.0	605.2	567.0
27.5°	651.0	677.7	660.5	649.1	633.8	622.3	570.8	610.9	563.2	595.6	555.5
30°	670.1	696.8	681.5	664.3	651.0	635.7	580.3	612.8	563.2	584.2	544.1
32.5°	702.5	727.3	712.1	698.7	683.4	660.5	599.4	622.3	567.0	576.5	534.5
35°	744.5	775.1	767.4	757.9	738.8	698.7	631.9	635.7	574.6	568.9	521.2
37.5°	813.2	855.2	853.3	851.4	830.4	757.9	668.2	662.4	582.2	563.2	504.0
40°	903.0	952.6	966.0	979.3	935.4	828.5	710.2	689.2	586.1	551.7	477.3
42.5°	1008.0	1074.8	1114.9	1139.7	1059.5	906.8	757.9	719.7	586.1	534.5	446.7
45°	1137.8	1216.0	1292.4	1319.1	1197.0	990.8	807.5	744.5	578.4	507.8	406.6
47.5°	1296.2	1387.9	1492.8	1506.2	1345.9	1080.5	841.9	761.7	553.6	471.5	370.3
50°	1471.9	1582.6	1737.2	1727.7	1504.3	1174.0	864.8	773.2	509.7	429.5	326.4
52.5°	1668.5	1807.8	2027.4	1983.5	1697.1	1290.5	885.8	788.4	456.3	379.9	282.5
55°	1914.7	2080.8	2355.7	2262.2	1910.9	1418.4	916.3	790.3	385.6	320.7	250.1
57.5°	2180.1	2357.6	2708.9	2539.0	2111.4	1517.7	903.0	729.2	315.0	271.1	225.3
60°	2498.9	2714.6	3062.1	2796.7	2279.4	1552.0	809.4	601.3	269.2	244.4	213.8
62.5°	2855.9	3069.7	3352.2	2976.2	2374.8	1494.8	601.3	416.2	231.0	217.6	196.6
65°	3235.8	3438.1	3491.6	2991.4	2311.8	1242.8	372.3	273.0	200.4	194.7	181.4
67.5°	3585.1	3604.2	3359.9	2743.3	2006.4	866.7	253.9	217.6	185.2	183.3	175.6
70°	3674.9	3344.6	2792.9	2136.2	1448.9	515.4	206.2	189.0	177.5	177.5	171.8
72.5°	3069.7	2546.6	1867.0	1294.3	790.3	274.9	175.6	171.8	168.0	168.0	164.2
73°	2878.8	2346.2	1672.3	1130.1	668.2	246.3	171.8	168.0	166.1	164.2	162.3
75°	1912.8	1473.8	948.8	572.7	311.2	177.5	152.7	152.7	150.8	152.7	150.8
77.5°	736.9	555.5	366.5	246.3	177.5	139.4	129.8	131.7	129.8	133.6	131.7
80°	324.5	320.7	242.4	173.7	129.8	105.0	105.0	105.0	106.9	108.8	108.8
82.5°	221.4	187.1	143.2	106.9	78.3	76.4	78.3	78.3	80.2	82.1	80.2
85°	122.2	103.1	76.4	47.7	42.0	51.5	51.5	51.5	49.6	49.6	47.7
87.5°	38.2	28.6	21.0	5.7	9.5	9.5	13.4	11.5	11.5	13.4	13.4
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: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2	710.2
2.5°	693.0	687.2	693.0	683.4	691.1	683.4	689.2	689.2	687.2	687.2	687.2
5°	670.1	660.5	670.1	664.3	670.1	662.4	668.2	670.1	672.0	677.7	675.8
7.5°	652.9	633.8	654.8	635.7	652.9	635.7	651.0	652.9	658.6	666.2	672.0
10°	645.2	620.4	645.2	622.3	643.3	624.2	643.3	645.2	651.0	660.5	670.1
12.5°	641.4	614.7	641.4	618.5	641.4	622.3	641.4	647.2	651.0	658.6	670.1
15°	637.6	610.9	641.4	616.6	641.4	622.3	643.3	647.2	652.9	660.5	670.1
17.5°	635.7	605.2	637.6	614.7	637.6	618.5	641.4	641.4	649.1	658.6	664.3
20°	628.1	599.4	628.1	605.2	628.1	610.9	630.0	630.0	637.6	641.4	651.0
22.5°	616.6	586.1	612.8	591.8	612.8	595.6	610.9	610.9	616.6	622.3	628.1
25°	599.4	570.8	593.7	574.6	589.9	574.6	586.1	584.2	588.0	591.8	595.6
27.5°	580.3	551.7	570.8	549.8	559.3	544.1	551.7	547.9	549.8	551.7	553.6
30°	559.3	530.7	540.3	521.2	523.1	507.8	511.6	505.9	504.0	502.1	498.3
32.5°	536.4	505.9	505.9	486.8	483.0	469.6	469.6	462.0	456.3	448.6	441.0
35°	507.8	481.1	467.7	452.4	444.8	431.4	429.5	420.0	406.6	393.3	385.6
37.5°	479.2	448.6	429.5	414.3	406.6	397.1	395.2	387.5	372.3	357.0	345.5
40°	441.0	410.4	389.4	383.7	378.0	370.3	372.3	362.7	347.4	330.3	320.7
42.5°	402.8	376.1	358.9	357.0	353.2	351.3	353.2	345.5	328.4	313.1	301.6
45°	370.3	343.6	326.4	324.5	322.6	330.3	332.2	330.3	311.2	295.9	280.6
47.5°	337.9	305.4	294.0	290.2	292.1	303.5	307.4	313.1	295.9	278.7	257.7
50°	299.7	269.2	265.4	261.5	263.4	273.0	282.5	294.0	278.7	253.9	225.3
52.5°	265.4	238.6	240.5	236.7	240.5	248.2	255.8	274.9	255.8	231.0	217.6
55°	238.6	217.6	221.4	217.6	221.4	231.0	236.7	252.0	252.0	246.3	234.8
57.5°	219.5	204.3	208.1	204.3	210.0	217.6	223.4	255.8	274.9	259.6	236.7
60°	208.1	194.7	196.6	192.8	196.6	208.1	219.5	257.7	288.3	257.7	240.5
62.5°	190.9	179.4	177.5	177.5	181.4	200.4	206.2	240.5	284.4	255.8	242.4
65°	179.4	169.9	168.0	166.1	169.9	183.3	189.0	223.4	274.9	242.4	219.5
67.5°	173.7	166.1	162.3	158.4	162.3	173.7	179.4	210.0	259.6	231.0	206.2
70°	168.0	160.4	158.4	154.6	156.5	164.2	171.8	192.8	246.3	217.6	192.8
72.5°	160.4	152.7	150.8	145.1	147.0	154.6	158.4	181.4	229.1	204.3	179.4
73°	158.4	150.8	148.9	143.2	145.1	150.8	154.6	177.5	225.3	202.4	177.5
75°	148.9	141.3	139.4	135.5	137.4	137.4	141.3	162.3	213.8	190.9	166.1
77.5°	131.7	126.0	124.1	120.3	118.4	116.4	122.2	143.2	194.7	171.8	133.6
80°	108.8	103.1	101.2	93.5	93.5	93.5	101.2	122.2	145.1	124.1	103.1
82.5°	80.2	76.4	76.4	70.6	68.7	66.8	72.5	84.0	114.5	97.4	80.2
85°	47.7	45.8	47.7	42.0	43.9	42.0	47.7	59.2	63.0	49.6	38.2
87.5°	11.5	13.4	13.4	13.4	11.5	11.5	9.5	7.6	0.0	0.0	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: P227983

CATALOG NUMBER: ISS-AF-1000-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	175°	180°
0°	710.2	710.2
2.5°	685.3	683.4
5°	675.8	675.8
7.5°	672.0	672.0
10°	673.9	673.9
12.5°	673.9	677.7
15°	679.6	677.7
17.5°	673.9	673.9
20°	658.6	662.4
22.5°	637.6	637.6
25°	603.2	605.2
27.5°	557.4	561.3
30°	500.2	504.0
32.5°	435.3	439.1
35°	383.7	385.6
37.5°	349.3	349.3
40°	320.7	320.7
42.5°	294.0	292.1
45°	267.3	263.4
47.5°	240.5	238.6
50°	217.6	217.6
52.5°	221.4	221.4
55°	238.6	238.6
57.5°	240.5	238.6
60°	261.5	259.6
62.5°	273.0	278.7
65°	238.6	231.0
67.5°	227.2	215.7
70°	204.3	187.1
72.5°	181.4	171.8
73°	175.6	168.0
75°	156.5	152.7
77.5°	118.4	116.4
80°	99.3	97.4
82.5°	66.8	63.0
85°	28.6	26.7
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)