

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: P228356

Luminaire Tested: **ISS-AF-450-LED-E1-SL4-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228356
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29763)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-450-LED-E1-SL4-8030
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV W/SPILL CONTROL
Light Source: (16) 3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2161 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U0 - G1

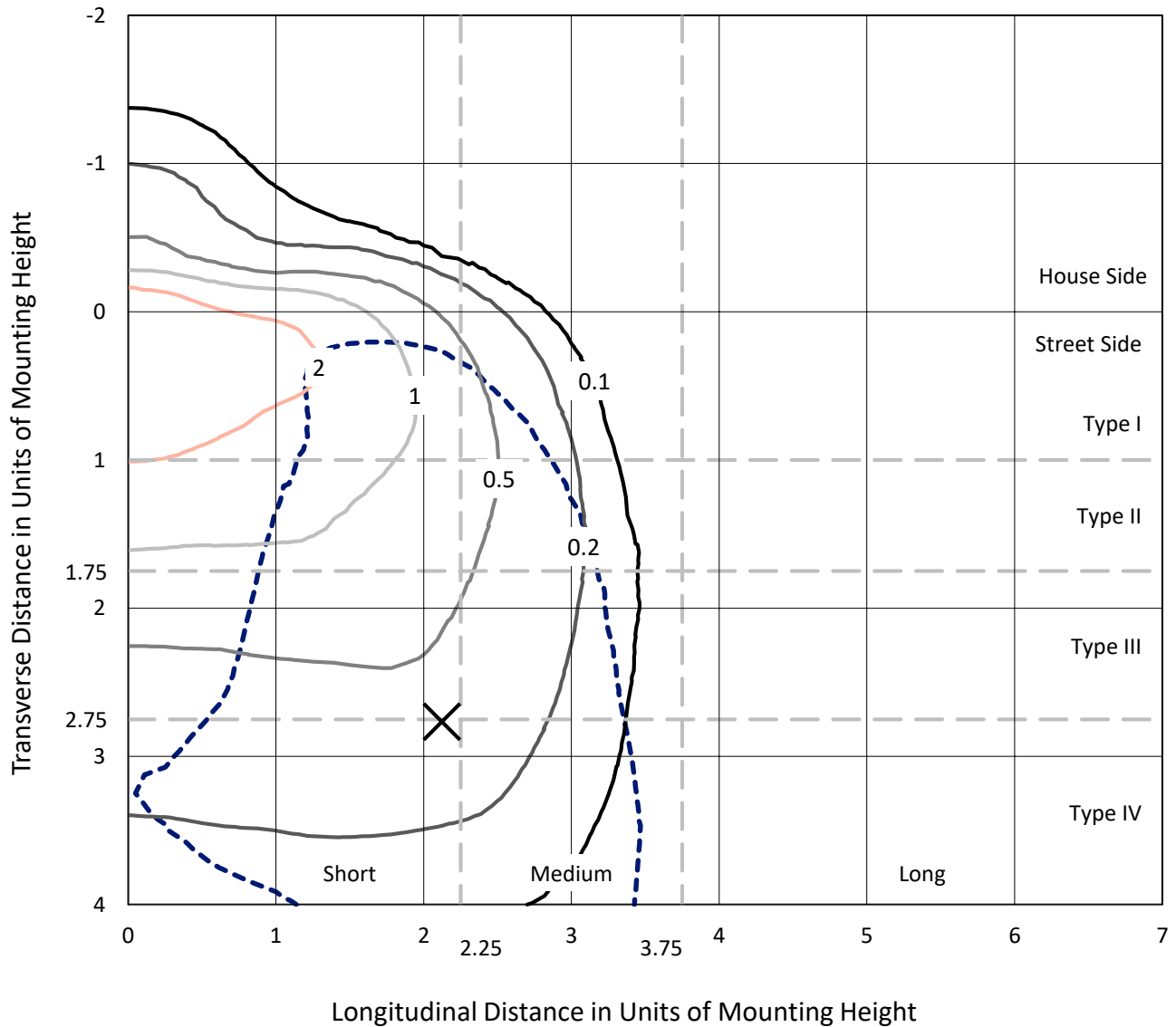
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

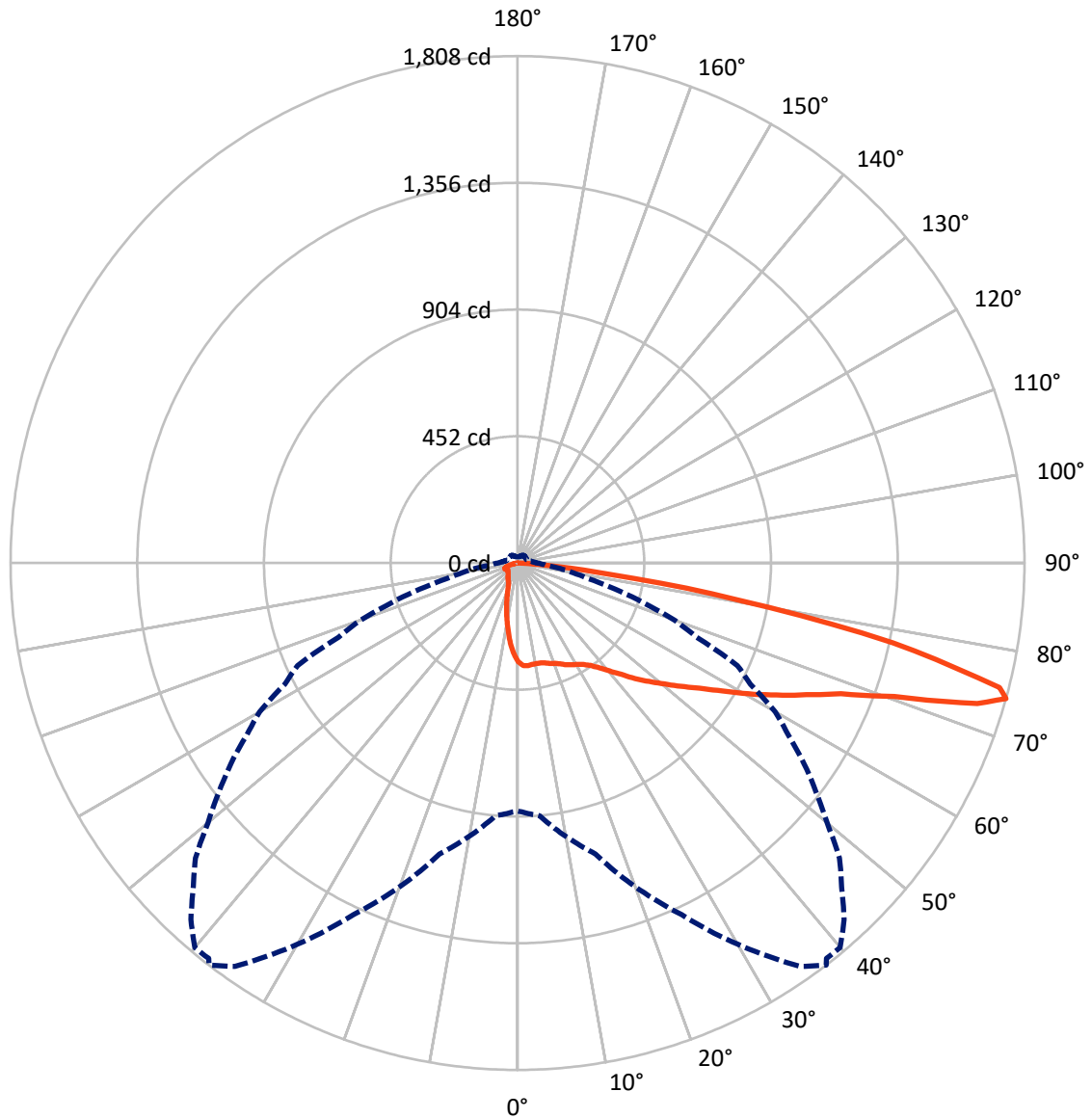
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 37.5-Deg Lateral - - - Horizontal Cone Through 74-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	256.2	0.0	256.2
	% Fixture	11.9	0.0	11.9
Street Side	Lumens	1904.8	0.0	1904.8
	% Fixture	88.1	0.0	88.1
Total	Lumens	2161.0	0.0	2161.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.7	1.4
10°-20°	78.2	3.6
20°-30°	121.2	5.6
30°-40°	179.8	8.3
40°-50°	276.5	12.8
50°-60°	408.8	18.9
60°-70°	544.9	25.2
70°-80°	470.3	21.8
80°-90°	50.6	2.3
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°	2161.0	100.0
0°-180°	2161.0	100.0



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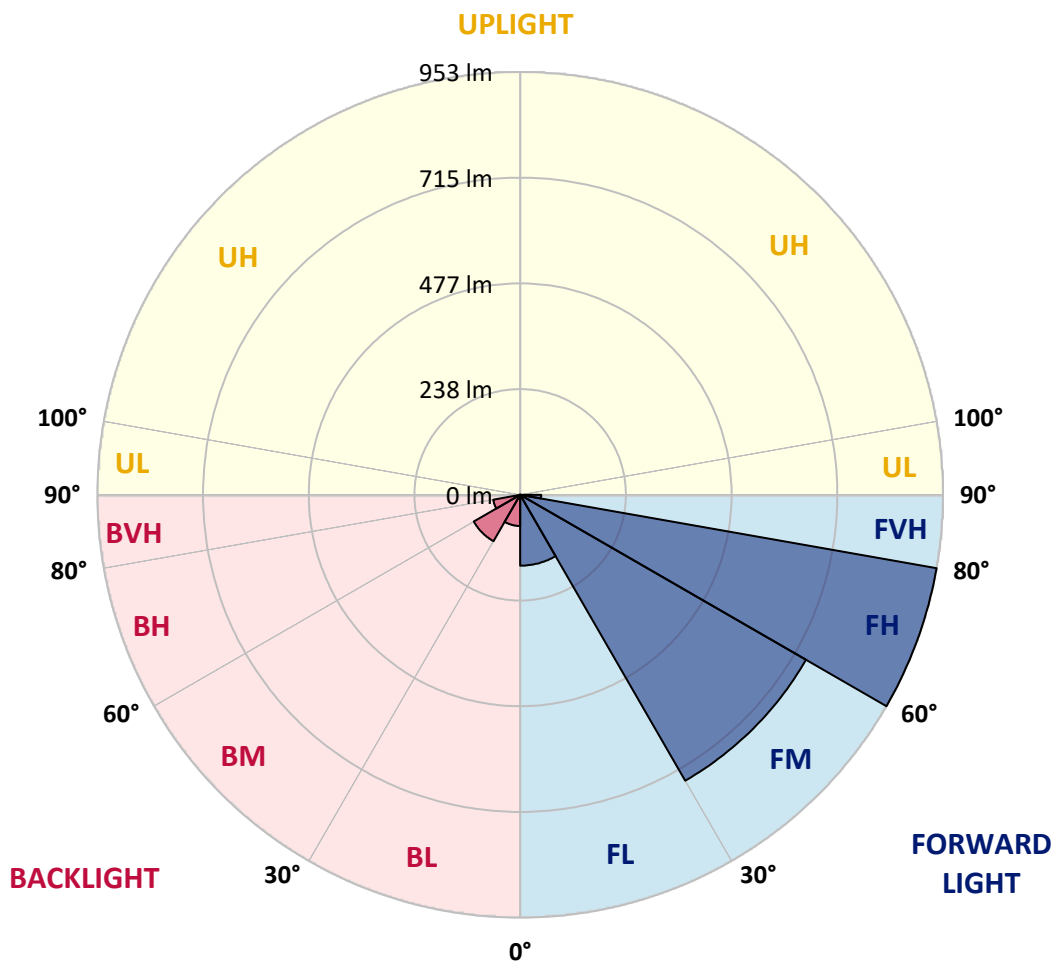
CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	159.8	7.4			
FM (30°-60°)	744.3	34.4			
FH (60°-80°)	953.4	44.1			G1/1800
FVH (80°-90°)	47.3	2.2			G1/100
BL (0°-30°)	70.3	3.3	B0/110		
BM (30°-60°)	120.8	5.6	B0/220		
BH (60°-80°)	61.8	2.9	B0/110		G0/110
BVH (80°-90°)	3.3	0.2			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	38°	40°	42.5°	45°	47.5°
0°	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6
2.5°	372.8	372.0	370.4	369.6	368.0	365.6	368.0	364.7	363.1	364.7	361.5
5°	379.3	378.5	376.8	373.6	372.0	368.0	370.4	366.4	365.6	367.2	363.1
7.5°	380.1	378.5	376.0	372.0	370.4	365.6	367.2	362.3	360.7	362.3	359.9
10°	377.7	376.8	374.4	368.0	366.4	364.7	363.9	360.7	359.9	359.1	358.3
12.5°	373.6	373.6	372.0	369.6	368.8	365.6	366.4	363.1	363.9	362.3	360.7
15°	372.0	371.2	372.8	374.4	374.4	369.6	372.8	370.4	368.8	369.6	367.2
17.5°	370.4	371.2	376.8	380.1	381.7	376.8	381.7	376.8	373.6	377.7	373.6
20°	369.6	372.0	381.7	389.0	389.8	381.7	389.8	381.7	381.7	386.5	379.3
22.5°	373.6	377.7	391.4	399.4	401.1	390.6	400.3	389.8	389.8	393.8	386.5
25°	386.5	390.6	405.9	414.8	413.2	401.9	410.7	400.3	399.4	404.3	394.6
27.5°	403.5	409.1	423.7	431.7	426.1	410.7	423.7	408.3	408.3	415.6	402.7
30°	427.7	431.7	444.6	445.4	438.2	419.6	434.1	417.2	414.8	427.7	411.5
32.5°	454.3	457.5	467.2	461.6	451.1	431.7	448.7	428.5	427.7	441.4	422.8
35°	482.6	485.8	489.0	479.3	469.7	448.7	467.2	447.1	446.2	461.6	443.8
37.5°	511.6	511.6	511.6	500.3	493.9	473.7	490.6	474.5	472.9	489.0	472.1
40°	535.0	536.6	534.2	523.7	520.5	506.0	520.5	506.0	508.4	522.9	509.2
42.5°	554.4	556.0	556.8	547.9	551.2	543.1	554.4	543.9	544.7	560.8	552.8
45°	573.7	572.9	579.4	577.0	586.7	587.5	593.9	589.9	591.5	603.6	601.2
47.5°	593.9	589.9	597.1	607.6	625.4	631.0	635.1	636.7	643.1	648.8	654.4
50°	613.3	609.3	614.1	637.5	665.7	677.8	678.7	686.7	694.0	702.1	713.4
52.5°	633.5	630.2	635.1	668.2	713.4	730.3	727.9	741.6	752.1	761.0	779.5
55°	654.4	651.2	656.1	705.3	764.2	787.6	785.2	804.5	824.7	827.9	848.9
57.5°	674.6	670.6	684.3	748.9	824.7	860.2	848.9	878.8	898.1	896.5	925.6
60°	696.4	693.2	715.0	802.1	900.6	946.6	929.6	969.2	982.9	977.2	1004.7
62.5°	717.4	716.6	752.9	864.3	992.6	1036.9	1021.6	1056.3	1066.0	1058.7	1072.4
65°	736.8	741.6	794.0	926.4	1081.3	1132.2	1111.2	1145.9	1157.2	1151.5	1174.9
67.5°	769.0	774.7	844.9	1005.5	1191.1	1243.5	1225.8	1262.1	1279.0	1277.4	1303.2
70°	816.6	827.1	919.9	1117.6	1358.1	1425.1	1415.4	1459.8	1500.9	1497.7	1523.5
72.5°	899.8	916.7	1043.4	1291.9	1632.5	1714.0	1702.7	1727.7	1720.4	1661.5	1613.9
74°	883.6	904.6	1074.1	1383.1	1755.9	1807.6	1789.0	1789.8	1723.7	1634.1	1557.4
75°	824.7	846.5	1029.7	1371.8	1747.1	1775.3	1748.7	1715.6	1635.7	1544.5	1450.1
77.5°	565.7	593.9	756.9	1108.0	1406.5	1367.8	1361.3	1298.4	1192.7	1090.2	969.2
80°	289.7	309.9	391.4	579.4	834.4	795.7	808.6	757.7	669.8	595.5	472.1
82.5°	69.4	74.2	115.4	224.3	361.5	330.9	335.7	297.0	246.1	200.9	155.7
85°	36.3	41.2	56.5	62.1	95.2	98.4	96.0	92.8	75.9	63.7	55.7
87.5°	0.0	0.0	0.0	1.6	0.8	0.0	0.8	0.0	0.0	0.8	1.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6
2.5°	363.9	362.3	363.9	359.1	361.5	357.5	359.1	355.1	356.7	353.4	354.3
5°	365.6	361.5	363.9	359.9	360.7	357.5	356.7	355.1	354.3	351.8	350.2
7.5°	361.5	358.3	357.5	355.9	353.4	354.3	351.0	350.2	347.8	347.8	343.0
10°	357.5	358.3	353.4	355.1	351.0	351.8	346.2	347.8	343.8	347.0	339.7
12.5°	360.7	361.5	357.5	359.9	352.6	354.3	349.4	351.8	346.2	350.2	341.3
15°	368.0	367.2	365.6	365.6	358.3	361.5	355.9	357.5	351.8	356.7	347.0
17.5°	374.4	373.6	371.2	370.4	365.6	366.4	360.7	363.9	357.5	361.5	351.8
20°	381.7	377.7	376.8	376.0	370.4	370.4	366.4	368.0	361.5	366.4	355.1
22.5°	387.3	384.1	383.3	380.1	376.0	377.7	372.0	372.8	366.4	371.2	361.5
25°	396.2	392.2	392.2	387.3	384.9	384.1	380.9	383.3	376.8	380.1	371.2
27.5°	408.3	399.4	402.7	397.8	396.2	395.4	393.8	395.4	390.6	393.0	384.1
30°	419.6	408.3	413.2	406.7	409.9	406.7	409.1	406.7	406.7	406.7	402.7
32.5°	435.0	421.2	430.9	421.2	427.7	422.8	430.9	426.1	429.3	428.5	426.9
35°	456.7	440.6	454.3	441.4	452.7	446.2	457.5	455.1	461.6	458.4	461.6
37.5°	485.8	468.8	485.0	472.9	486.6	476.9	493.1	491.4	505.2	500.3	505.2
40°	522.1	510.0	522.1	513.2	527.8	523.7	540.7	541.5	556.8	554.4	560.0
42.5°	562.5	553.6	565.7	560.8	575.4	578.6	598.0	602.8	617.3	621.4	622.2
45°	606.0	604.4	614.1	618.9	633.5	643.1	660.1	672.2	688.3	697.2	695.6
47.5°	656.9	663.3	669.8	681.9	694.8	715.0	731.9	747.2	765.8	771.5	773.9
50°	714.2	725.5	731.1	748.1	761.0	786.0	809.4	828.7	848.9	846.5	848.1
52.5°	774.7	789.2	797.3	817.4	834.4	863.4	883.6	902.2	927.2	920.7	918.3
55°	841.7	863.4	869.9	892.5	907.0	936.9	954.6	986.9	997.4	990.9	977.2
57.5°	912.7	938.5	945.8	976.4	983.7	1016.0	1031.3	1053.1	1062.0	1051.5	1033.7
60°	993.4	1016.8	1022.4	1049.9	1059.5	1089.4	1100.7	1120.1	1126.5	1100.7	1075.7
62.5°	1074.1	1098.3	1101.5	1125.7	1135.4	1161.2	1174.1	1185.4	1182.2	1144.3	1112.8
65°	1166.1	1189.5	1197.5	1221.7	1227.4	1246.8	1257.2	1244.3	1237.1	1179.8	1144.3
67.5°	1312.1	1337.1	1340.4	1346.0	1345.2	1335.5	1330.7	1286.3	1254.0	1148.3	1097.5
70°	1504.2	1485.6	1449.3	1407.3	1376.7	1321.8	1289.5	1198.3	1130.5	1011.9	926.4
72.5°	1538.9	1478.3	1388.8	1317.0	1242.7	1156.4	1087.0	949.0	853.8	729.5	639.1
74°	1440.4	1342.0	1247.6	1146.7	1061.2	935.3	865.1	690.8	596.3	470.5	360.7
75°	1321.8	1206.4	1099.9	971.6	891.7	740.8	674.6	486.6	392.2	279.2	188.0
77.5°	843.3	705.3	603.6	455.1	393.0	271.1	198.5	123.5	91.2	79.9	69.4
80°	378.5	269.5	213.8	147.7	123.5	94.4	79.9	64.6	58.9	51.6	49.2
82.5°	121.0	96.8	92.0	82.3	82.3	66.2	56.5	44.4	40.3	34.7	31.5
85°	52.5	49.2	50.8	46.8	47.6	36.3	29.1	21.8	21.8	15.3	13.7
87.5°	1.6	0.0	0.8	0.0	1.6	0.0	0.8	0.0	0.8	0.0	0.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6
2.5°	351.0	352.6	351.8	348.6	347.8	345.4	339.7	340.5	337.3	339.7	335.7
5°	347.8	347.0	343.8	339.7	335.7	330.9	326.8	325.2	322.0	320.4	317.9
7.5°	343.0	339.7	334.1	327.6	322.0	315.5	312.3	306.6	305.0	299.4	298.6
10°	341.3	335.7	329.2	321.2	311.5	301.8	301.0	291.3	290.5	281.6	279.2
12.5°	344.6	337.3	329.2	319.6	308.3	294.5	294.5	280.0	279.2	267.1	263.1
15°	351.0	342.2	331.7	320.4	305.8	288.9	288.1	271.1	269.5	255.0	250.2
17.5°	356.7	344.6	334.9	319.6	302.6	283.2	279.2	262.3	259.0	242.1	235.6
20°	360.7	347.0	335.7	317.9	297.0	274.4	268.7	251.0	243.7	226.8	217.9
22.5°	365.6	352.6	337.3	317.1	293.7	267.1	255.0	238.9	228.4	210.6	198.5
25°	372.8	361.5	343.0	319.6	291.3	259.8	243.7	226.8	212.2	194.5	176.7
27.5°	384.1	372.8	351.0	322.8	290.5	252.6	234.8	213.8	196.1	176.7	156.6
30°	400.3	388.1	364.7	331.7	291.3	246.9	225.1	202.5	181.6	159.0	138.0
32.5°	421.2	411.5	382.5	341.3	294.5	242.1	216.3	190.4	164.6	142.8	124.3
35°	450.3	443.8	407.5	359.9	302.6	239.7	207.4	179.1	150.1	128.3	108.1
37.5°	493.1	484.2	443.8	386.5	315.5	238.1	200.9	165.4	138.0	114.6	97.6
40°	547.1	535.0	486.6	418.8	335.7	238.9	195.3	154.9	127.5	102.5	88.8
42.5°	611.7	593.9	539.0	458.4	355.9	240.5	192.1	145.3	119.4	92.8	82.3
45°	684.3	664.1	601.2	507.6	384.9	244.5	189.6	137.2	112.2	85.5	78.3
47.5°	755.3	735.1	664.9	556.8	414.8	251.8	191.2	132.3	107.3	81.5	73.4
50°	824.7	803.7	721.4	601.2	440.6	261.5	197.7	133.1	106.5	79.9	71.0
52.5°	886.0	860.2	769.8	635.9	459.2	267.9	203.4	135.6	107.3	79.1	70.2
55°	947.4	914.3	808.6	663.3	470.5	268.7	203.4	136.4	108.1	79.1	69.4
57.5°	993.4	955.4	838.4	679.5	474.5	264.7	198.5	132.3	103.3	78.3	67.8
60°	1022.4	982.1	859.4	689.9	468.8	247.7	172.7	117.0	91.2	72.6	62.9
62.5°	1046.6	1005.5	865.9	672.2	421.2	196.9	134.8	95.2	75.9	64.6	58.1
65°	1052.3	1003.0	820.7	593.9	329.2	136.4	97.6	75.0	62.1	57.3	52.5
67.5°	966.7	907.8	689.9	464.8	224.3	93.6	72.6	61.3	53.3	50.8	49.2
70°	786.0	721.4	505.2	304.2	125.1	65.4	55.7	50.8	46.0	46.0	43.6
72.5°	506.8	439.8	259.0	129.9	63.7	50.0	45.2	43.6	39.5	40.3	37.9
74°	259.0	201.7	105.7	68.6	52.5	44.4	40.3	39.5	35.5	36.3	33.9
75°	131.5	104.1	74.2	57.3	48.4	42.0	37.1	37.1	32.3	33.1	30.7
77.5°	61.3	58.9	50.8	45.2	41.2	35.5	30.7	29.9	25.0	26.6	23.4
80°	42.8	42.8	39.5	37.9	33.9	29.1	23.4	23.4	18.6	19.4	16.9
82.5°	24.2	22.6	22.6	25.8	26.6	21.8	16.9	16.1	13.7	13.7	11.3
85°	10.5	12.1	14.5	17.8	19.4	16.9	12.1	11.3	7.3	7.3	4.0
87.5°	0.0	0.8	0.8	1.6	3.2	3.2	0.0	1.6	0.0	0.8	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



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CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-8030

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6
2.5°	337.3	333.3	335.7	331.7	333.3	329.2	330.9	328.4	326.0	322.8	322.0
5°	315.5	312.3	311.5	307.5	308.3	305.0	301.8	297.8	292.9	286.5	284.0
7.5°	291.3	290.5	284.9	282.4	279.2	276.0	270.3	263.9	254.2	245.3	239.7
10°	270.3	267.9	259.8	255.8	251.0	246.9	238.9	230.0	216.3	202.5	195.3
12.5°	252.6	249.4	238.9	234.0	226.8	221.9	212.2	200.9	181.6	162.2	153.3
15°	238.1	233.2	221.1	213.8	204.2	199.3	188.8	172.7	149.3	129.1	117.0
17.5°	221.1	214.7	201.7	192.9	183.2	174.3	163.8	146.9	120.2	101.7	89.6
20°	202.5	194.5	180.8	168.7	158.2	150.1	139.6	122.7	96.0	81.5	75.0
22.5°	183.2	170.3	158.2	147.7	135.6	127.5	117.0	101.7	81.5	73.4	71.0
25°	163.0	148.5	136.4	125.9	114.6	107.3	98.4	86.3	74.2	71.8	71.8
27.5°	142.8	128.3	117.0	106.5	96.8	92.0	83.9	75.9	70.2	71.0	71.8
30°	124.3	109.7	99.3	91.2	82.3	79.1	72.6	67.8	67.0	69.4	70.2
32.5°	108.1	95.2	85.5	79.1	71.8	70.2	64.6	62.1	64.6	67.8	67.0
35°	94.4	83.9	74.2	70.2	63.7	62.9	58.9	57.3	60.5	64.6	64.6
37.5°	83.9	74.2	67.0	63.7	58.9	58.1	54.9	53.3	55.7	61.3	62.9
40°	75.0	69.4	62.1	58.9	55.7	54.1	52.5	50.8	51.6	58.9	59.7
42.5°	69.4	65.4	58.9	57.3	53.3	52.5	50.0	48.4	49.2	54.9	57.3
45°	65.4	62.1	56.5	55.7	51.6	50.8	48.4	46.8	47.6	52.5	54.9
47.5°	62.1	58.9	54.1	52.5	50.0	49.2	47.6	46.0	46.0	50.8	53.3
50°	60.5	57.3	52.5	50.8	48.4	47.6	46.0	44.4	45.2	49.2	50.8
52.5°	59.7	55.7	51.6	49.2	47.6	46.0	44.4	42.8	43.6	47.6	49.2
55°	59.7	54.9	51.6	49.2	46.8	44.4	43.6	41.2	42.8	46.0	48.4
57.5°	59.7	54.9	51.6	49.2	47.6	45.2	43.6	42.0	42.8	46.0	48.4
60°	58.1	54.1	52.5	50.0	49.2	46.8	46.0	44.4	44.4	48.4	52.5
62.5°	55.7	53.3	52.5	50.8	50.8	49.2	49.2	47.6	47.6	52.5	56.5
65°	52.5	50.8	51.6	50.8	50.8	50.8	50.0	50.0	50.0	54.1	58.9
67.5°	49.2	48.4	49.2	49.2	50.0	49.2	50.0	49.2	49.2	53.3	58.1
70°	44.4	44.4	45.2	44.4	45.2	45.2	46.0	46.0	46.0	48.4	53.3
72.5°	38.7	37.9	38.7	37.9	39.5	37.9	39.5	40.3	39.5	40.3	42.8
74°	34.7	33.9	34.7	33.9	35.5	33.9	34.7	34.7	33.9	27.4	23.4
75°	31.5	30.7	31.5	30.7	32.3	30.7	32.3	31.5	29.9	20.2	19.4
77.5°	25.0	22.6	25.0	22.6	24.2	21.8	23.4	20.2	15.3	14.5	14.5
80°	18.6	16.1	17.8	15.3	14.5	11.3	12.1	11.3	10.5	11.3	11.3
82.5°	11.3	8.1	9.7	7.3	8.9	6.5	8.1	7.3	6.5	6.5	6.5
85°	5.6	4.0	5.6	3.2	4.8	3.2	4.0	4.0	2.4	2.4	2.4
87.5°	0.8	0.0	1.6	0.0	1.6	0.0	0.8	0.8	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

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	175°	180°
0°	352.6	352.6
2.5°	319.6	320.4
5°	280.0	282.4
7.5°	236.4	238.1
10°	190.4	192.1
12.5°	146.9	148.5
15°	110.6	108.9
17.5°	84.7	83.1
20°	71.8	71.8
22.5°	70.2	69.4
25°	71.0	70.2
27.5°	71.0	70.2
30°	69.4	68.6
32.5°	67.0	66.2
35°	64.6	64.6
37.5°	62.9	63.7
40°	60.5	61.3
42.5°	58.1	58.9
45°	55.7	56.5
47.5°	53.3	53.3
50°	50.0	50.0
52.5°	49.2	49.2
55°	49.2	49.2
57.5°	50.8	50.8
60°	55.7	56.5
62.5°	65.4	66.2
65°	75.0	76.7
67.5°	75.9	78.3
70°	73.4	75.9
72.5°	50.8	50.8
74°	22.6	21.8
75°	19.4	18.6
77.5°	14.5	14.5
80°	10.5	9.7
82.5°	5.6	5.6
85°	1.6	1.6
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)