

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: P227801

Luminaire Tested: **ISS-AF-450-LED-E1-T4FT-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227801
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29760)-DOWNLIGHT AND
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-T4FT-8030-ULG
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV FORWARD THROW, WITH UPLIGHT GLOW
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3844.2 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U5 - G1

Input Watts (W): 42.01
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

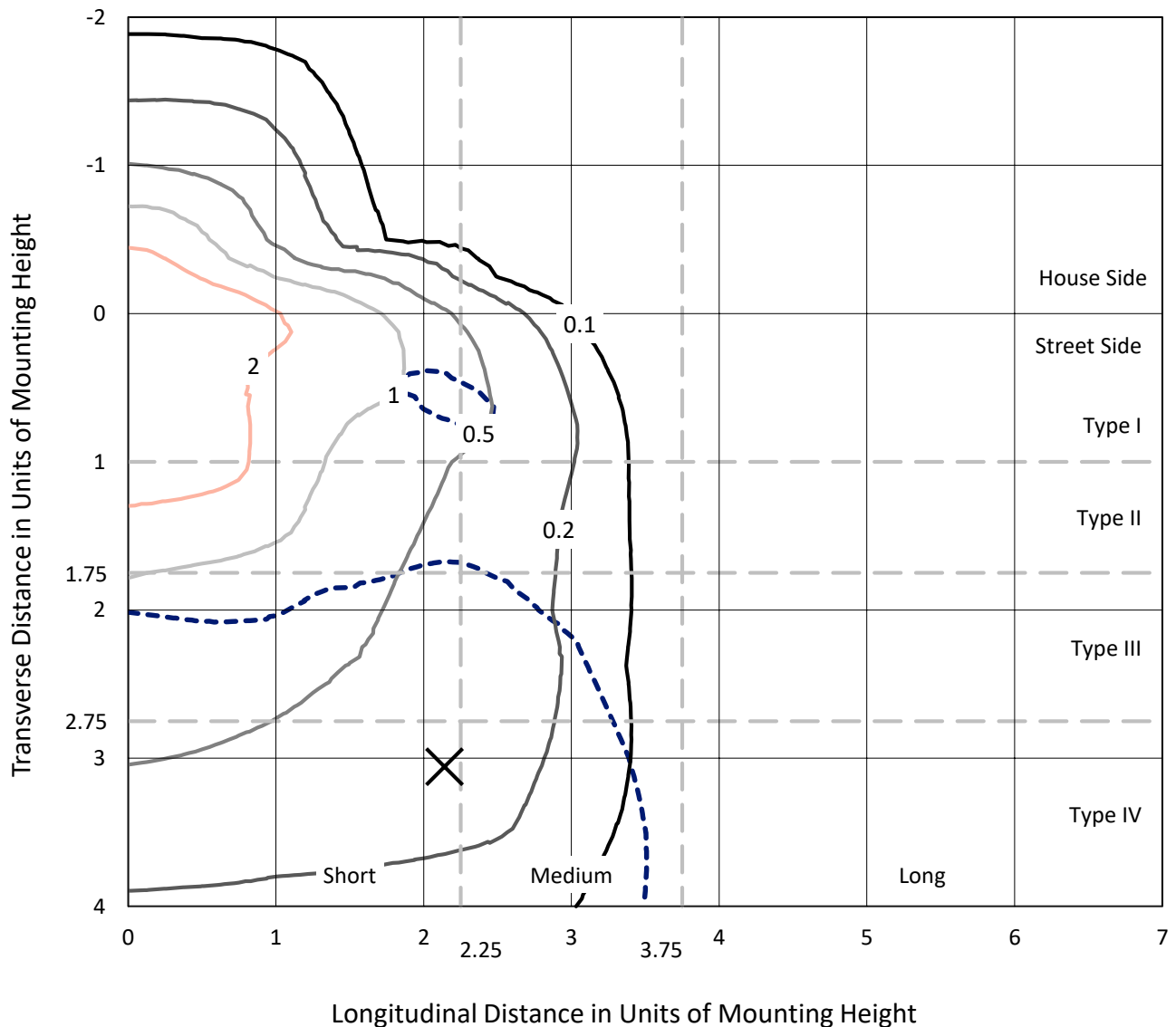


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Iso-Footcandle Lines of Horizontal Illumination

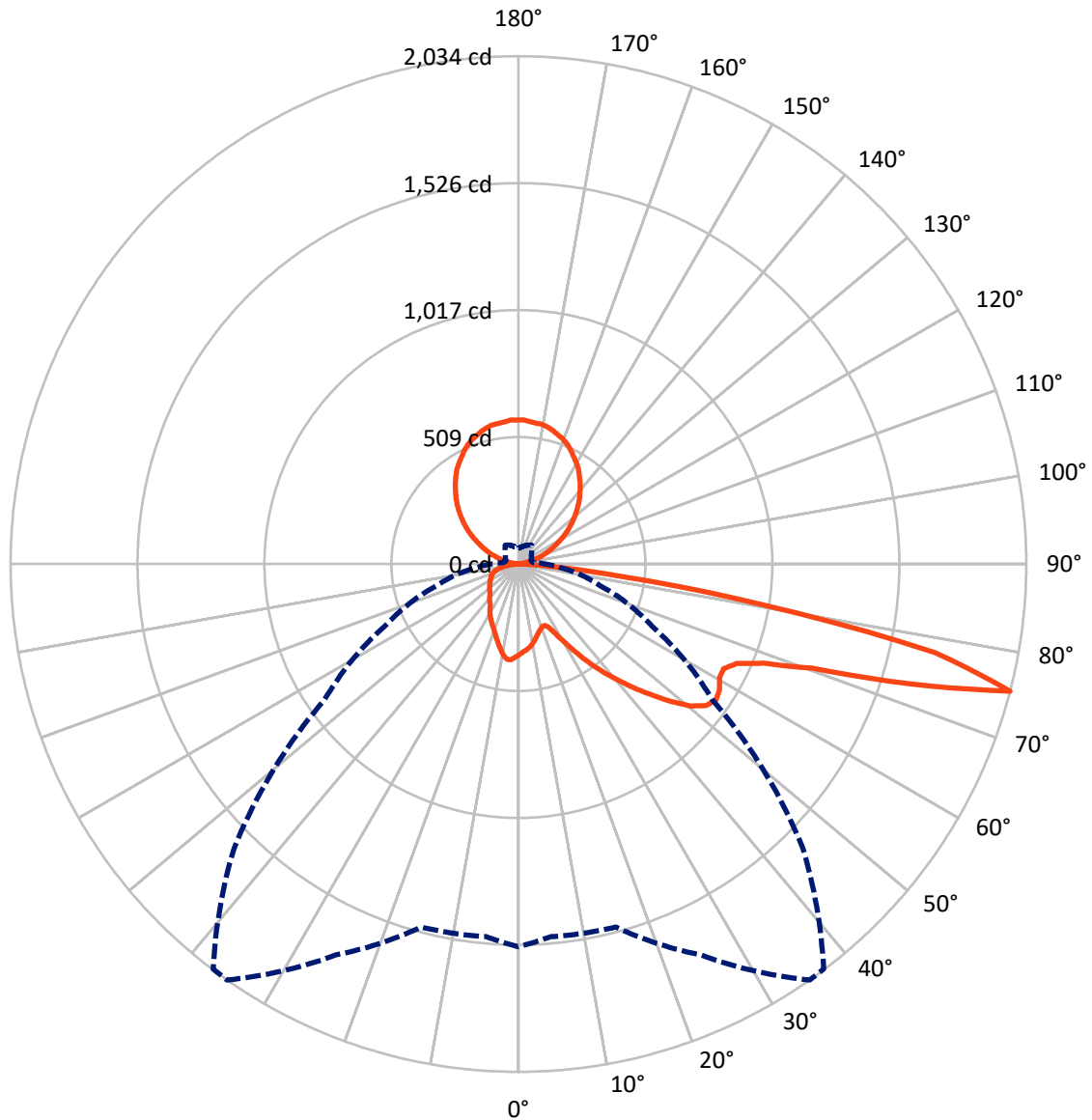
× Max cd
 - - - 1/2 Max cd



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 35-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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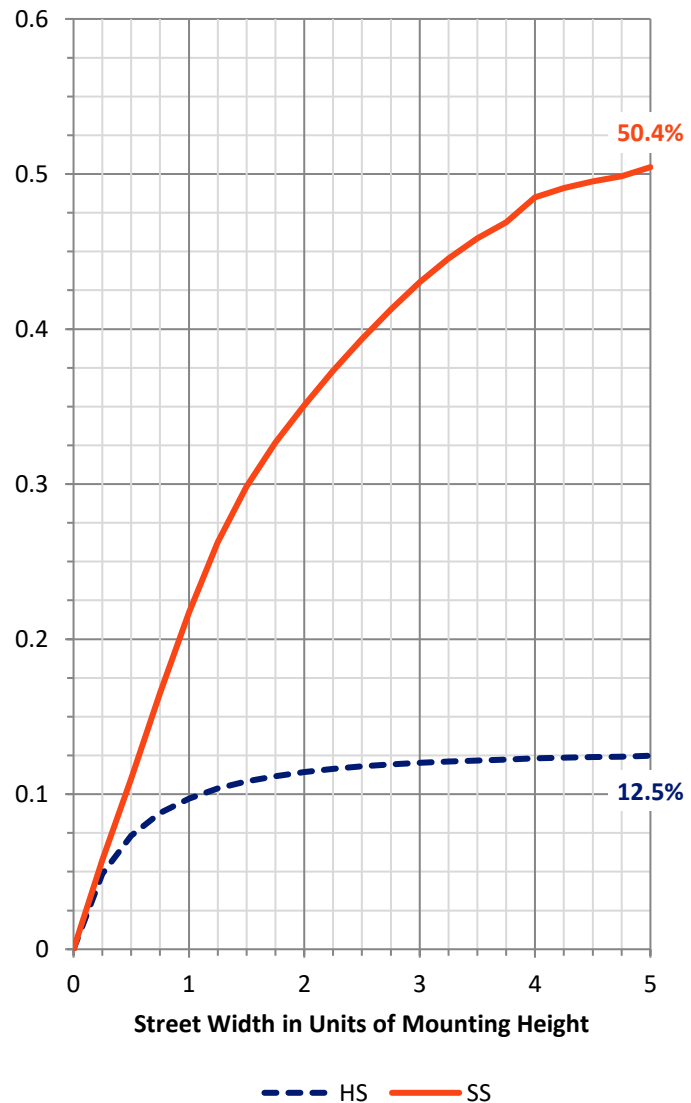
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	485.3	713.1	1198.4
	% Fixture	12.6	18.5	31.2
Street Side	Lumens	1932.7	713.1	2645.8
	% Fixture	50.3	18.5	68.8
Total	Lumens	2418.0	1426.2	3844.2
	% Fixture	62.9	37.1	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.1	0.9
10°-20°	90.0	2.3
20°-30°	142.4	3.7
30°-40°	229.8	6.0
40°-50°	339.9	8.8
50°-60°	437.1	11.4
60°-70°	541.2	14.1
70°-80°	545.4	14.2
80°-90°	58.2	1.5
90°-100°	4.7	0.1
100°-110°	69.0	1.8
110°-120°	153.0	4.0
120°-130°	223.9	5.8
130°-140°	265.6	6.9
140°-150°	269.3	7.0
150°-160°	231.1	6.0
160°-170°	155.1	4.0
170°-180°	54.3	1.4
0°-90°	2418.0	62.9
0°-180°	3844.2	100.0



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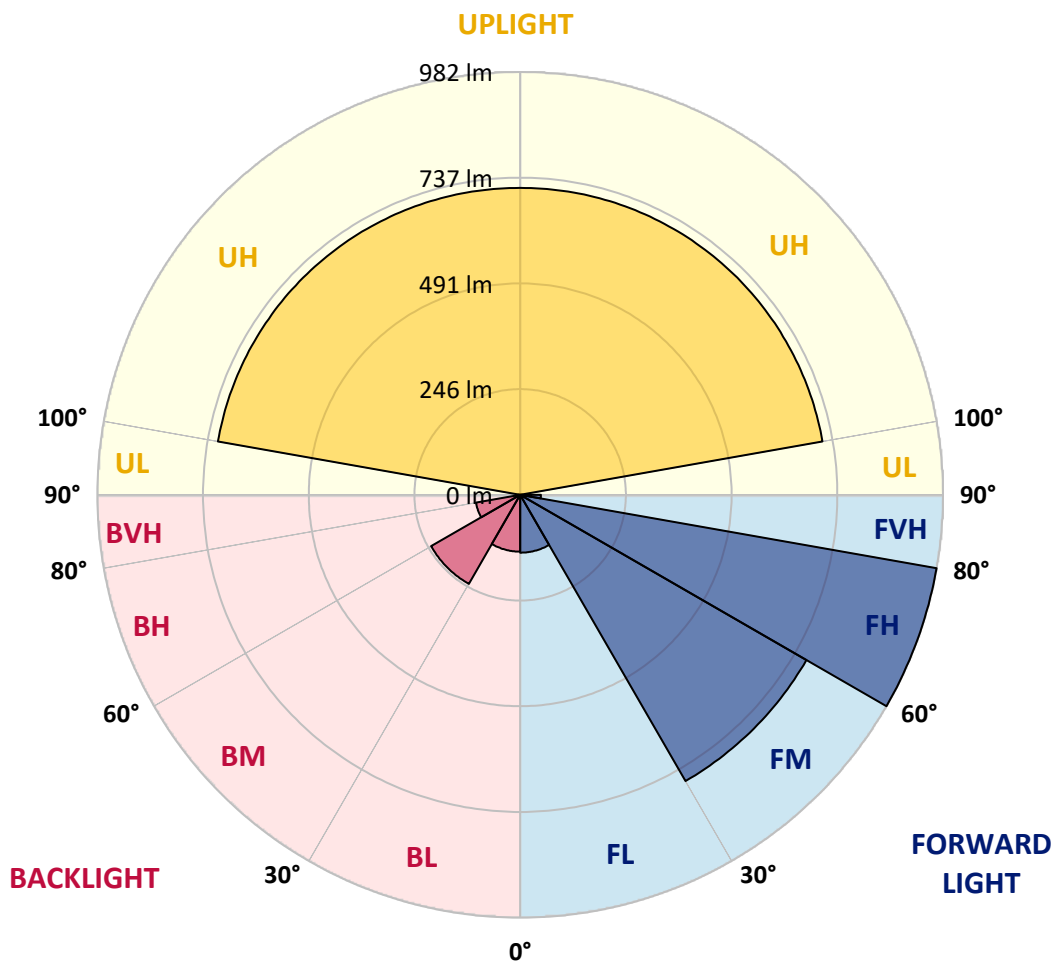
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	134.5	3.5			
FM	(30°-60°)	767.8	20.0			
FH	(60°-80°)	982.3	25.6			G1/1800
FVH	(80°-90°)	48.2	1.3			G1/100
BL	(0°-30°)	132.0	3.4	B1/500		
BM	(30°-60°)	239.0	6.2	B1/1000		
BH	(60°-80°)	104.3	2.7	B0/110		G0/110
BVH	(80°-90°)	10.1	0.3			G1/100
UL	(90°-100°)	4.7	0.1		U1/10	
UH	(100°-180°)	713.1	18.5		U4/1000	

BUG Rating: B1-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37°	45°	55°	65°	75°	85°
0°	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2
2.5°	352.8	351.9	351.1	351.1	352.8	352.8	353.6	354.4	355.2	357.6	360.8
5°	343.1	342.3	341.4	342.3	344.7	344.7	347.1	348.7	350.3	354.4	358.4
7.5°	330.1	330.1	329.3	332.6	335.0	334.2	337.4	339.0	343.1	347.1	353.6
10°	313.2	313.2	313.2	317.2	321.3	321.3	323.7	327.7	331.0	336.6	344.7
12.5°	298.7	297.9	297.9	301.1	305.9	306.7	310.8	316.4	320.5	327.7	336.6
15°	293.8	292.2	288.2	288.2	290.6	290.6	297.1	305.1	311.6	318.8	329.3
17.5°	294.6	292.2	281.7	278.5	278.5	279.3	285.8	294.6	302.7	311.6	325.3
20°	301.9	297.9	278.5	271.2	269.6	270.4	276.1	284.9	294.6	306.7	322.1
22.5°	333.4	326.9	290.6	274.5	267.2	267.2	270.4	280.1	292.2	308.4	327.7
25°	406.0	395.5	331.0	301.9	280.1	277.7	272.0	281.7	296.2	315.6	343.9
27.5°	480.3	469.8	381.0	349.5	315.6	308.4	287.4	289.8	305.9	331.8	368.1
30°	542.4	533.6	444.0	407.6	362.4	354.4	322.1	306.7	322.9	354.4	404.4
32.5°	547.3	543.3	511.8	474.6	419.7	408.4	365.7	341.4	349.5	385.0	444.0
35°	592.5	589.3	572.3	536.8	481.9	469.0	423.8	386.7	384.2	418.9	489.2
37.5°	636.9	632.9	621.6	597.3	546.5	536.0	500.5	440.7	423.8	458.5	533.6
40°	678.9	673.2	658.7	645.0	607.8	607.8	569.9	492.4	461.7	493.2	570.7
42.5°	756.4	738.6	699.9	689.4	678.9	678.9	623.2	527.9	492.4	531.1	606.2
45°	830.6	813.7	761.2	740.2	745.9	742.6	665.9	548.1	519.8	566.7	640.1
47.5°	889.5	874.2	820.9	806.4	822.5	809.6	701.5	564.2	554.6	604.6	668.4
50°	942.0	905.7	854.0	873.4	893.6	871.8	732.9	588.5	589.3	645.0	709.5
52.5°	870.2	866.1	877.4	922.6	942.0	917.8	761.2	619.1	626.4	696.6	756.4
55°	783.8	783.0	849.2	937.2	960.6	938.0	779.8	656.3	665.1	760.4	815.3
57.5°	766.8	758.8	804.0	906.5	949.3	933.1	789.5	691.0	702.3	841.1	873.4
60°	821.7	806.4	799.1	873.4	925.1	917.0	801.6	732.1	747.5	933.1	927.5
62.5°	941.2	920.2	868.6	875.8	922.6	916.2	830.6	780.6	798.3	1025.2	958.2
65°	1099.4	1084.1	1001.7	942.8	960.6	951.7	883.1	841.9	851.6	1091.3	923.4
67.5°	1273.0	1252.0	1162.4	1081.7	1059.1	1042.1	966.2	914.6	879.9	1081.7	830.6
70°	1469.1	1446.5	1369.0	1285.9	1247.1	1228.6	1111.5	977.5	869.4	975.1	655.5
72.5°	1710.5	1679.8	1637.0	1645.9	1639.4	1587.8	1343.2	998.5	792.7	725.7	391.5
75°	1532.9	1498.2	1505.4	1727.4	2034.2	2031.7	1611.2	946.9	590.9	342.3	169.5
77.5°	549.7	607.8	896.8	1294.0	1705.6	1703.2	1247.1	592.5	253.5	146.1	102.5
80°	138.0	140.5	222.8	531.1	996.1	988.0	707.1	223.6	105.7	88.8	70.2
82.5°	44.4	47.6	81.5	183.2	426.2	416.5	219.6	73.5	66.2	57.3	42.8
85°	14.5	14.5	29.1	63.0	140.5	134.8	44.4	26.6	36.3	29.9	19.4
87.5°	0.0	0.0	0.8	1.6	3.2	1.6	0.0	1.6	4.8	5.7	4.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	2.0	2.0	2.0	3.0	4.0	5.0	9.0	13.0	7.0	5.0	4.0
100°	8.0	8.0	10.0	14.0	22.0	23.6	30.0	32.0	30.0	27.0	26.0
102.5°	28.0	28.0	32.0	38.0	45.0	46.0	50.0	51.0	50.0	48.0	49.0
105°	54.0	54.0	56.0	61.0	66.0	66.8	70.0	71.0	71.0	69.0	71.0
107.5°	78.0	77.0	80.0	84.0	88.0	88.6	91.0	93.0	92.0	91.0	92.0
110°	101.0	102.0	103.0	106.0	110.0	110.4	112.0	114.0	114.0	113.0	114.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	37°	45°	55°	65°	75°	85°
112.5°	124.0	124.0	126.0	129.0	132.0	132.4	134.0	136.0	136.0	135.0	137.0
115°	146.0	147.0	149.0	151.0	154.0	154.4	156.0	158.0	158.0	158.0	160.0
117.5°	169.0	170.0	172.0	174.0	177.0	177.4	179.0	180.0	181.0	180.0	182.0
120°	193.0	195.0	196.0	198.0	201.0	201.2	202.0	204.0	204.0	204.0	206.0
122.5°	219.0	220.0	221.0	223.0	226.0	226.2	227.0	228.0	228.0	229.0	233.0
125°	244.0	246.0	247.0	248.0	251.0	251.2	252.0	253.0	254.0	254.0	257.0
127.5°	267.0	269.0	270.0	272.0	274.0	274.4	276.0	278.0	277.0	278.0	281.0
130°	290.0	292.0	293.0	294.0	298.0	298.2	299.0	301.0	301.0	302.0	305.0
132.5°	313.0	314.0	317.0	318.0	321.0	321.2	322.0	325.0	325.0	326.0	329.0
135°	336.0	337.0	339.0	341.0	345.0	345.0	345.0	348.0	348.0	349.0	351.0
137.5°	359.0	360.0	363.0	364.0	367.0	367.0	367.0	369.0	369.0	370.0	374.0
140°	382.0	383.0	385.0	386.0	388.0	388.2	389.0	390.0	390.0	392.0	396.0
142.5°	404.0	406.0	408.0	407.0	410.0	410.0	410.0	412.0	412.0	413.0	416.0
145°	425.0	426.0	428.0	428.0	431.0	431.2	432.0	434.0	433.0	434.0	437.0
147.5°	444.0	444.0	447.0	448.0	452.0	452.2	453.0	454.0	452.0	453.0	456.0
150°	461.0	462.0	464.0	465.0	469.0	469.2	470.0	471.0	469.0	469.0	473.0
152.5°	479.0	480.0	483.0	482.0	485.0	485.2	486.0	487.0	486.0	486.0	489.0
155°	499.0	500.0	502.0	501.0	503.0	503.0	503.0	504.0	503.0	504.0	507.0
157.5°	513.0	515.0	517.0	516.0	519.0	519.0	519.0	519.0	517.0	518.0	523.0
160°	525.0	527.0	529.0	529.0	532.0	532.0	532.0	532.0	530.0	530.0	533.0
162.5°	535.0	536.0	539.0	538.0	541.0	541.0	541.0	542.0	540.0	538.0	540.0
165°	546.0	547.0	549.0	548.0	552.0	552.0	552.0	553.0	550.0	548.0	550.0
167.5°	555.0	556.0	559.0	558.0	561.0	560.8	560.0	560.0	558.0	559.0	563.0
170°	562.0	563.0	566.0	565.0	567.0	566.8	566.0	565.0	564.0	566.0	571.0
172.5°	565.0	566.0	569.0	567.0	569.0	568.8	568.0	569.0	567.0	568.0	571.0
175°	567.0	569.0	570.0	569.0	572.0	572.0	572.0	573.0	570.0	568.0	571.0
177.5°	572.0	573.0	575.0	574.0	578.0	577.8	577.0	577.0	574.0	574.0	577.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2	363.2
2.5°	363.2	362.4	365.7	368.1	368.9	371.3	373.7	375.4	374.5	373.7	373.7
5°	362.4	363.2	368.9	373.7	377.8	381.8	385.0	386.7	385.8	385.8	385.8
7.5°	357.6	360.8	367.3	375.4	381.0	383.4	384.2	381.8	380.2	377.8	377.8
10°	349.5	354.4	364.9	373.7	376.2	372.9	368.1	363.2	356.8	352.8	352.8
12.5°	343.1	348.7	361.6	368.9	365.7	357.6	347.1	339.0	332.6	327.7	326.9
15°	337.4	344.7	358.4	360.0	352.8	339.0	325.3	316.4	309.2	305.9	305.9
17.5°	333.4	343.1	355.2	350.3	335.8	318.0	305.1	297.9	292.2	289.0	288.2
20°	334.2	346.3	351.9	338.2	317.2	298.7	286.6	282.5	278.5	276.9	276.9
22.5°	343.1	354.4	351.1	327.7	300.3	279.3	271.2	270.4	268.8	267.2	266.4
25°	362.4	370.5	353.6	317.2	282.5	261.5	257.5	259.9	259.1	257.5	257.5
27.5°	389.1	390.7	357.6	306.7	263.2	244.6	244.6	248.6	247.0	244.6	246.2
30°	421.4	412.5	359.2	289.8	240.5	228.4	230.9	233.3	231.7	228.4	228.4
32.5°	456.1	435.1	359.2	268.0	218.8	213.9	214.7	215.5	212.3	208.3	208.3
35°	490.0	456.9	355.2	242.2	201.8	199.4	198.6	201.8	199.4	193.7	193.7
37.5°	522.3	473.8	344.7	215.5	188.9	188.1	190.5	188.9	185.7	177.6	176.0
40°	544.9	485.1	323.7	193.7	178.4	183.2	181.6	172.7	167.9	162.2	162.2
42.5°	565.0	490.8	297.9	176.8	171.1	177.6	171.1	159.8	153.4	152.6	153.4
45°	583.6	495.6	272.8	163.1	162.2	171.1	163.1	150.9	143.7	143.7	144.5
47.5°	601.4	500.5	247.8	150.1	151.8	161.4	156.6	144.5	137.2	132.4	132.4
50°	629.6	511.8	211.5	136.4	139.6	153.4	151.8	138.0	130.0	122.7	121.1
52.5°	663.5	531.1	171.9	121.9	130.8	146.1	146.1	132.4	123.5	113.8	112.2
55°	708.7	552.1	138.0	111.4	121.9	138.0	140.5	130.0	117.0	108.2	106.6
57.5°	753.9	559.4	111.4	100.9	110.6	130.0	136.4	125.1	109.8	103.3	102.5
60°	785.4	536.0	93.6	92.0	102.5	120.3	130.8	119.5	104.9	98.5	98.5
62.5°	780.6	465.0	83.9	86.4	96.1	113.0	125.9	114.6	101.7	97.7	96.9
65°	712.0	351.1	75.9	81.5	90.4	105.7	121.1	112.2	100.1	96.1	94.4
67.5°	599.8	233.3	70.2	76.7	84.8	100.1	117.0	109.0	95.3	92.8	91.2
70°	434.3	136.4	64.6	71.8	79.1	93.6	111.4	102.5	89.6	88.0	83.9
72.5°	234.9	85.6	58.1	65.4	71.8	85.6	102.5	94.4	82.3	75.9	73.5
75°	107.4	62.2	51.7	58.1	63.0	75.1	92.0	83.1	73.5	65.4	63.8
77.5°	71.8	46.8	43.6	50.0	52.5	63.0	81.5	66.2	57.3	51.7	50.0
80°	49.2	34.7	35.5	41.2	40.4	50.0	61.3	53.3	45.2	46.8	42.8
82.5°	31.5	24.2	27.4	29.1	28.3	37.9	47.6	40.4	33.9	28.3	24.2
85°	13.7	12.9	16.1	17.0	17.0	21.0	25.0	20.2	15.3	11.3	11.3
87.5°	0.8	1.6	1.6	2.4	1.6	0.8	0.0	0.0	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
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	4.0	4.0	5.0	7.0	13.0	9.0	4.0	3.0	2.0	2.0	2.0
100°	25.0	26.0	27.0	30.0	32.0	30.0	22.0	14.0	10.0	8.0	8.0
102.5°	48.0	49.0	48.0	50.0	51.0	50.0	45.0	38.0	32.0	28.0	28.0
105°	69.0	71.0	69.0	71.0	71.0	70.0	66.0	61.0	56.0	54.0	54.0
107.5°	91.0	92.0	91.0	92.0	93.0	91.0	88.0	84.0	80.0	77.0	78.0
110°	113.0	114.0	113.0	114.0	114.0	112.0	110.0	106.0	103.0	102.0	101.0



REPORT NUMBER: P227801

CATALOG NUMBER: ISS-AF-450-LED-E1-T4FT-8030-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	135.0	137.0	135.0	136.0	136.0	134.0	132.0	129.0	126.0	124.0	124.0
115°	159.0	160.0	158.0	158.0	158.0	156.0	154.0	151.0	149.0	147.0	146.0
117.5°	180.0	182.0	180.0	181.0	180.0	179.0	177.0	174.0	172.0	170.0	169.0
120°	204.0	206.0	204.0	204.0	204.0	202.0	201.0	198.0	196.0	195.0	193.0
122.5°	232.0	233.0	229.0	228.0	228.0	227.0	226.0	223.0	221.0	220.0	219.0
125°	256.0	257.0	254.0	254.0	253.0	252.0	251.0	248.0	247.0	246.0	244.0
127.5°	278.0	281.0	278.0	277.0	278.0	276.0	274.0	272.0	270.0	269.0	267.0
130°	303.0	305.0	302.0	301.0	301.0	299.0	298.0	294.0	293.0	292.0	290.0
132.5°	327.0	329.0	326.0	325.0	325.0	322.0	321.0	318.0	317.0	314.0	313.0
135°	350.0	351.0	349.0	348.0	348.0	345.0	345.0	341.0	339.0	337.0	336.0
137.5°	372.0	374.0	370.0	369.0	369.0	367.0	367.0	364.0	363.0	360.0	359.0
140°	394.0	396.0	392.0	390.0	390.0	389.0	388.0	386.0	385.0	383.0	382.0
142.5°	415.0	416.0	413.0	412.0	412.0	410.0	410.0	407.0	408.0	406.0	404.0
145°	435.0	437.0	434.0	433.0	434.0	432.0	431.0	428.0	428.0	426.0	425.0
147.5°	453.0	456.0	453.0	452.0	454.0	453.0	452.0	448.0	447.0	444.0	444.0
150°	470.0	473.0	469.0	469.0	471.0	470.0	469.0	465.0	464.0	462.0	461.0
152.5°	486.0	489.0	486.0	486.0	487.0	486.0	485.0	482.0	483.0	480.0	479.0
155°	505.0	507.0	504.0	503.0	504.0	503.0	503.0	501.0	502.0	500.0	499.0
157.5°	520.0	523.0	518.0	517.0	519.0	519.0	519.0	516.0	517.0	515.0	513.0
160°	531.0	533.0	530.0	530.0	532.0	532.0	532.0	529.0	529.0	527.0	525.0
162.5°	537.0	540.0	538.0	540.0	542.0	541.0	541.0	538.0	539.0	536.0	535.0
165°	548.0	550.0	548.0	550.0	553.0	552.0	552.0	548.0	549.0	547.0	546.0
167.5°	561.0	563.0	559.0	558.0	560.0	560.0	561.0	558.0	559.0	556.0	555.0
170°	569.0	571.0	566.0	564.0	565.0	566.0	567.0	565.0	566.0	563.0	562.0
172.5°	568.0	571.0	568.0	567.0	569.0	568.0	569.0	567.0	569.0	566.0	565.0
175°	568.0	571.0	568.0	570.0	573.0	572.0	572.0	569.0	570.0	569.0	567.0
177.5°	574.0	577.0	574.0	574.0	577.0	577.0	578.0	574.0	575.0	573.0	572.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0

(END OF REPORT)