

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: P271449

Luminaire Tested: **ISC-AF-450-LED-E1-T4FT-7027-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P271449  
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: ISC-AF-450-LED-E1-T4FT-7027-ULG  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV FORWARD THROW, WITH UPLIGHT GLOW  
Light Source: (16) 2700K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

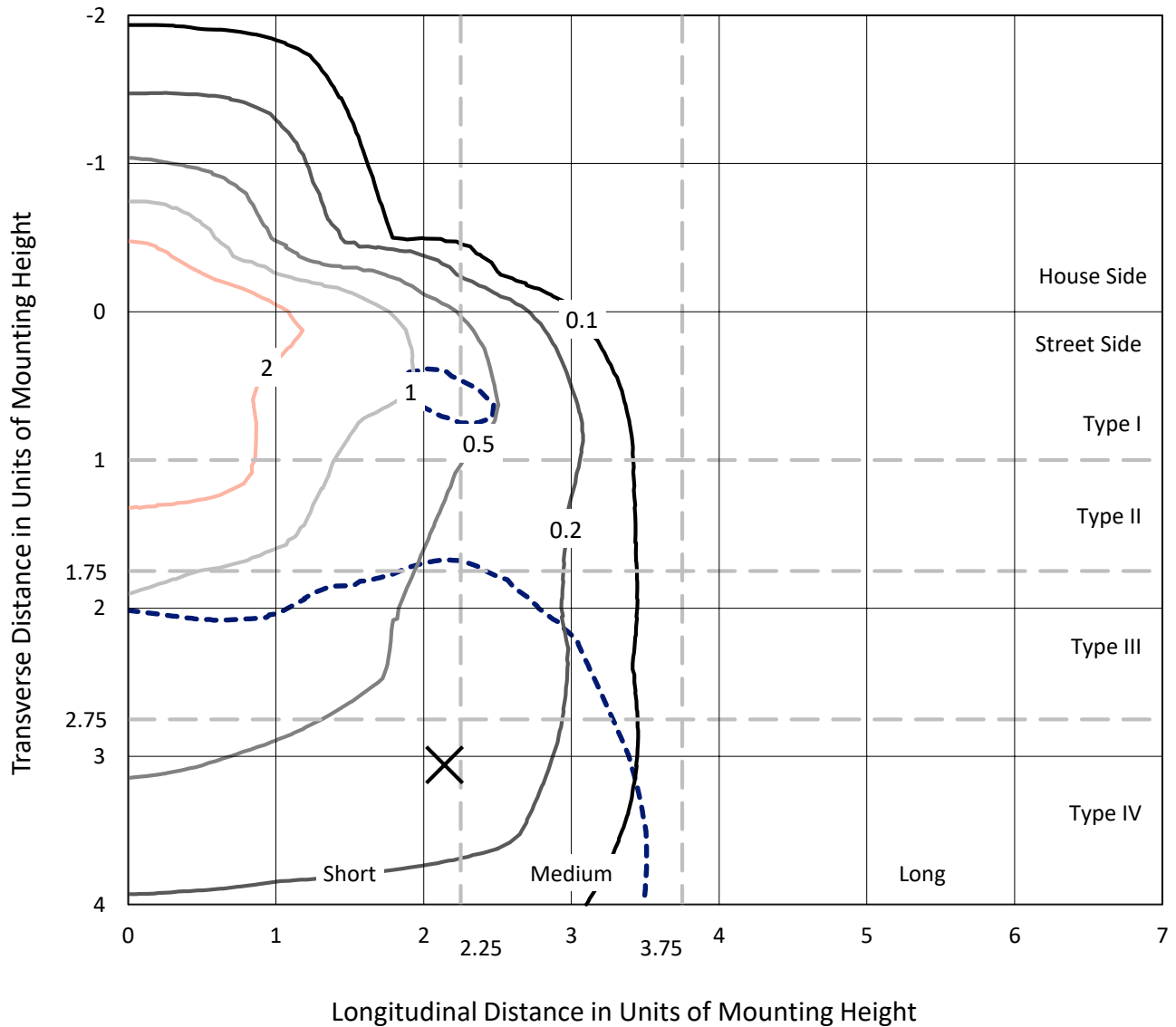
Lumens per Lamp: N/A  
Luminaire Lumens: 3974.2 lumens  
Efficiency: N/A  
Efficacy: 94.6 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U5 - G1  
  
Input Watts (W): 42.01  
Input Voltage (V): 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

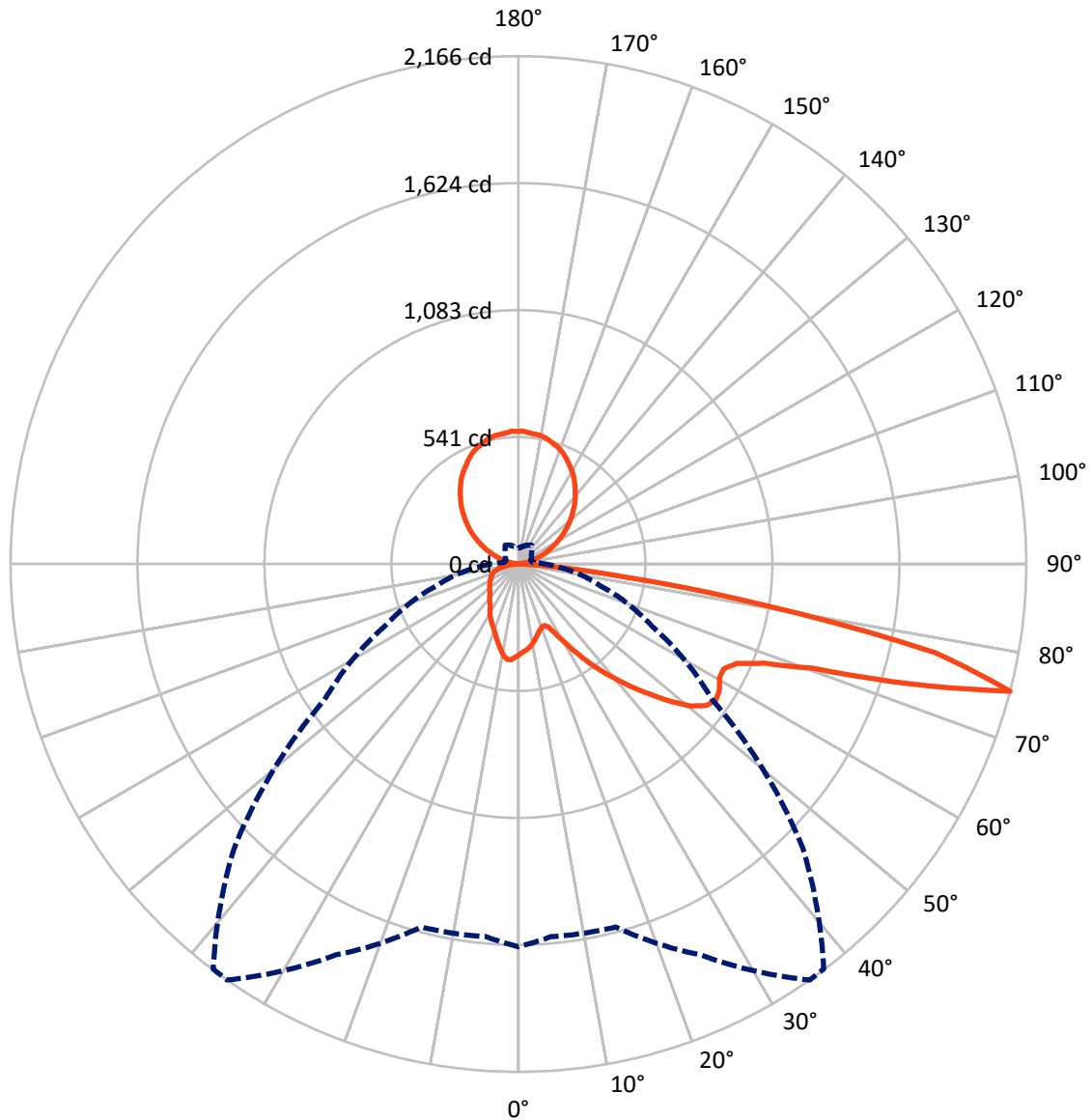
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.9 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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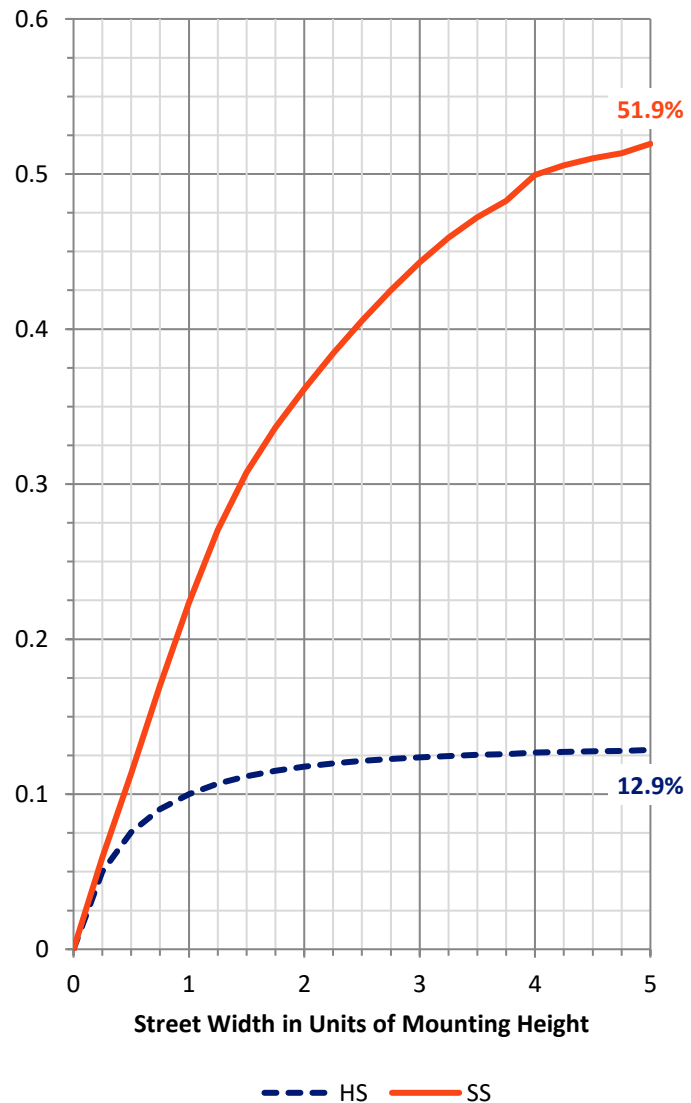
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	516.7	699.9	1216.6
	% Fixture	13.0	17.6	30.6
<b>Street Side</b>	Lumens	2057.7	699.9	2757.6
	% Fixture	51.8	17.6	69.4
<b>Total</b>	Lumens	2574.4	1399.8	3974.2
	% Fixture	64.8	35.2	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.3	0.9
10°-20°	95.8	2.4
20°-30°	151.6	3.8
30°-40°	244.6	6.2
40°-50°	361.9	9.1
50°-60°	465.4	11.7
60°-70°	576.2	14.5
70°-80°	580.6	14.6
80°-90°	62.0	1.6
90°-100°	4.7	0.1
100°-110°	67.7	1.7
110°-120°	150.2	3.8
120°-130°	219.7	5.5
130°-140°	260.7	6.6
140°-150°	264.3	6.7
150°-160°	226.8	5.7
160°-170°	152.2	3.8
170°-180°	53.3	1.3
0°-90°	2574.4	64.8
0°-180°	3974.2	100.0



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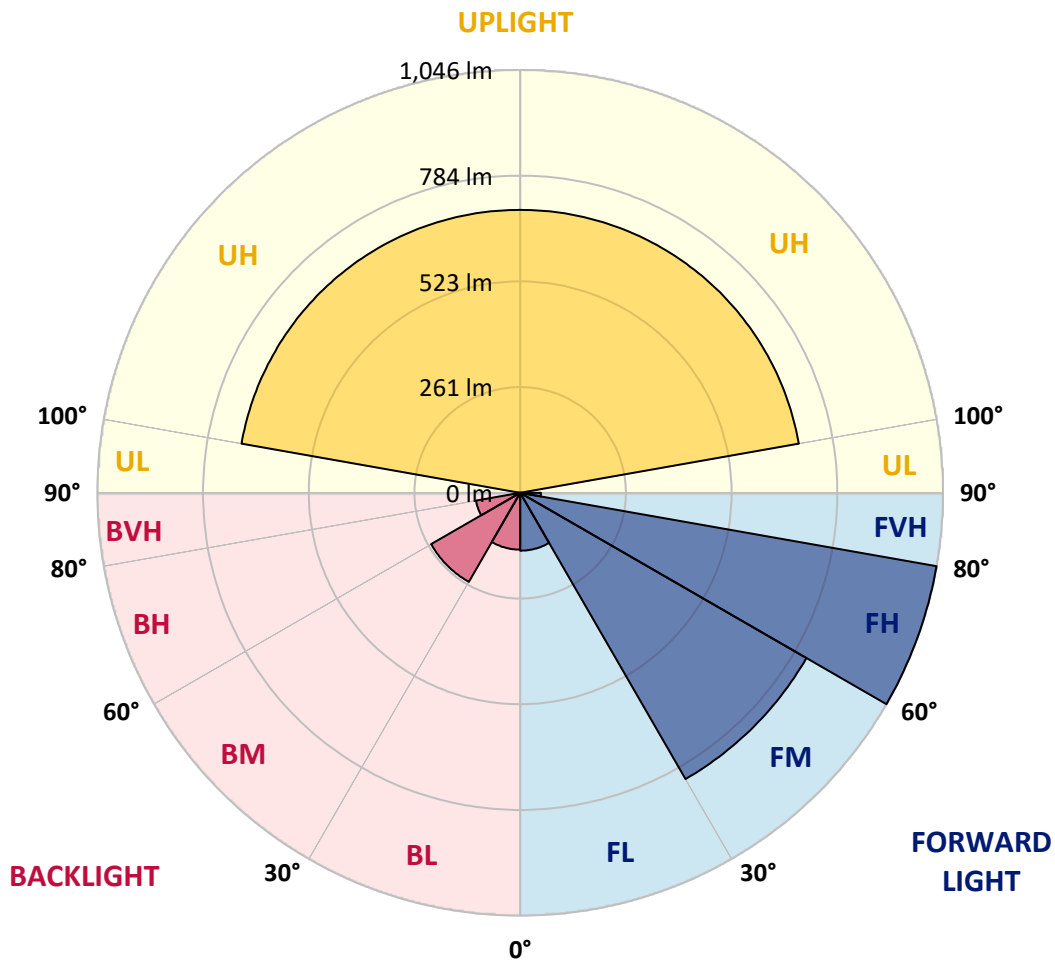
CATALOG NUMBER: ISC-AF-450-LED-E1-T4FT-7027-ULG

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	143.1	3.6			
FM (30°-60°)	817.5	20.6			
FH (60°-80°)	1045.8	26.3			G1/1800
FVH (80°-90°)	51.3	1.3			G1/100
BL (0°-30°)	140.5	3.5	B1/500		
BM (30°-60°)	254.4	6.4	B1/1000		
BH (60°-80°)	111.0	2.8	B1/500		G1/500
BVH (80°-90°)	10.7	0.3			G1/100
UL (90°-100°)	4.7	0.1		U1/10	
UH (100°-180°)	699.9	17.6		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°	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7
2.5°	375.6	374.8	373.9	373.9	375.6	375.6	376.4	377.3	378.2	380.7	384.1
5°	365.3	364.4	363.5	364.4	367.0	367.0	369.6	371.3	373.0	377.3	381.6
7.5°	351.5	351.5	350.7	354.1	356.6	355.8	359.2	361.0	365.3	369.6	376.4
10°	333.5	333.5	333.5	337.8	342.1	342.1	344.6	348.9	352.3	358.3	367.0
12.5°	318.0	317.1	317.1	320.5	325.7	326.5	330.8	337.0	341.2	348.9	358.3
15°	312.8	311.2	306.8	306.8	309.4	309.4	316.2	324.8	331.7	339.5	350.7
17.5°	313.7	311.2	299.9	296.5	296.5	297.4	304.3	313.7	322.3	331.7	346.4
20°	321.4	317.1	296.5	288.7	287.1	287.9	293.9	303.4	313.7	326.5	343.0
22.5°	354.9	348.0	309.4	292.2	284.4	284.4	287.9	298.1	311.2	328.3	348.9
25°	432.4	421.1	352.3	321.4	298.1	295.6	289.6	299.9	315.5	336.1	366.1
27.5°	511.3	500.2	405.7	372.2	336.1	328.3	306.0	308.6	325.7	353.2	391.9
30°	577.5	568.1	472.7	434.0	385.9	377.3	343.0	326.5	343.8	377.3	430.6
32.5°	582.7	578.4	544.9	505.4	446.9	434.9	389.3	363.5	372.2	410.0	472.7
35°	630.8	627.4	609.3	571.5	513.1	499.4	451.2	411.6	409.1	446.1	520.7
37.5°	678.1	673.8	661.7	636.0	581.8	570.6	532.9	469.3	451.2	488.2	568.1
40°	722.8	716.8	701.3	686.7	647.2	647.2	606.7	524.3	491.6	525.1	607.6
42.5°	805.3	786.4	745.1	733.9	722.8	722.8	663.5	562.1	524.3	565.6	645.4
45°	884.3	866.3	810.5	788.2	794.1	790.7	709.0	583.6	553.4	603.3	681.5
47.5°	947.2	930.7	874.1	858.6	875.8	862.0	746.9	600.8	590.5	643.7	711.5
50°	1003.0	964.3	909.3	929.8	951.3	928.2	780.4	626.5	627.4	686.7	755.5
52.5°	926.4	922.2	934.1	982.4	1003.0	977.2	810.5	659.2	666.9	741.7	805.3
55°	834.5	833.6	904.1	997.7	1022.7	998.6	830.2	698.7	708.1	809.6	868.0
57.5°	816.5	807.8	855.9	965.2	1010.8	993.4	840.5	735.7	747.7	895.5	929.8
60°	874.9	858.6	850.9	929.8	984.9	976.3	853.4	779.5	795.8	993.4	987.5
62.5°	1002.1	979.7	924.7	932.5	982.4	975.5	884.3	831.0	850.0	1091.5	1020.1
65°	1170.5	1154.2	1066.6	1003.9	1022.7	1013.3	940.3	896.4	906.7	1162.0	983.1
67.5°	1355.4	1332.9	1237.5	1151.6	1127.6	1109.6	1028.6	973.8	936.8	1151.6	884.3
70°	1564.2	1540.1	1457.6	1369.1	1327.9	1308.0	1183.4	1040.8	925.6	1038.2	697.8
72.5°	1821.1	1788.4	1742.9	1752.3	1745.5	1690.5	1430.1	1063.1	844.0	772.6	416.8
75°	1632.1	1595.1	1602.8	1839.2	2165.7	2163.2	1715.4	1008.1	629.2	364.4	180.5
77.5°	585.2	647.2	954.8	1377.7	1815.9	1813.4	1327.9	630.8	269.9	155.6	109.1
80°	147.0	149.6	237.2	565.6	1060.4	1051.9	752.9	238.1	112.6	94.5	74.8
82.5°	47.3	50.8	86.8	195.1	453.7	443.4	233.8	78.2	70.4	61.1	45.5
85°	15.5	15.5	30.9	67.0	149.6	143.5	47.3	28.4	38.6	31.8	20.6
87.5°	0.0	0.0	0.9	1.8	3.4	1.8	0.0	1.8	5.2	6.0	4.3
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	4.9	8.8	12.8	6.8	4.9	4.0
100°	7.8	7.8	9.8	13.7	21.6	23.2	29.5	31.4	29.5	26.5	25.5
102.5°	27.5	27.5	31.4	37.3	44.2	45.2	49.0	50.0	49.0	47.1	48.1
105°	53.0	53.0	55.0	59.8	64.8	65.6	68.7	69.7	69.7	67.7	69.7
107.5°	76.5	75.5	78.5	82.5	86.3	87.0	89.3	91.3	90.3	89.3	90.3
110°	99.2	100.1	101.1	104.0	108.0	108.3	110.0	111.9	111.9	110.9	111.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	37°	45°	55°	65°	75°	85°
112.5°	121.7	121.7	123.7	126.6	129.5	130.0	131.5	133.5	133.5	132.5	134.5
115°	143.3	144.3	146.2	148.2	151.2	151.5	153.1	155.0	155.0	155.0	157.0
117.5°	165.8	166.8	168.8	170.8	173.7	174.1	175.7	176.7	177.7	176.7	178.7
120°	189.5	191.4	192.3	194.3	197.3	197.4	198.3	200.2	200.2	200.2	202.2
122.5°	215.0	216.0	216.9	218.8	221.8	222.0	222.8	223.8	223.8	224.8	228.7
125°	239.5	241.5	242.5	243.4	246.3	246.6	247.3	248.3	249.3	249.3	252.2
127.5°	262.0	264.0	265.0	267.0	269.0	269.3	270.9	272.8	271.8	272.8	275.8
130°	284.7	286.6	287.5	288.5	292.5	292.7	293.5	295.5	295.5	296.4	299.3
132.5°	307.2	308.2	311.2	312.1	315.0	315.2	316.0	319.0	319.0	320.0	322.9
135°	329.8	330.8	332.7	334.7	338.6	338.6	338.6	341.5	341.5	342.5	344.5
137.5°	352.3	353.3	356.3	357.3	360.2	360.2	360.2	362.2	362.2	363.2	367.0
140°	375.0	375.9	377.8	378.8	380.8	381.0	381.8	382.8	382.8	384.7	388.7
142.5°	396.5	398.5	400.5	399.5	402.4	402.4	402.4	404.3	404.3	405.3	408.3
145°	417.2	418.1	420.0	420.0	423.0	423.2	424.0	426.0	425.0	426.0	428.9
147.5°	435.8	435.8	438.7	439.7	443.7	443.9	444.6	445.6	443.7	444.6	447.5
150°	452.5	453.5	455.4	456.4	460.3	460.5	461.3	462.3	460.3	460.3	464.2
152.5°	470.2	471.1	474.0	473.0	476.0	476.2	477.0	478.0	477.0	477.0	480.0
155°	489.8	490.7	492.7	491.7	493.7	493.7	493.7	494.7	493.7	494.7	497.6
157.5°	503.5	505.5	507.5	506.5	509.4	509.4	509.4	509.4	507.5	508.4	513.3
160°	515.3	517.2	519.2	519.2	522.2	522.2	522.2	522.2	520.2	520.2	523.2
162.5°	525.1	526.0	529.0	528.0	531.0	531.0	531.0	532.0	530.0	528.0	530.0
165°	535.9	536.8	538.8	537.8	541.8	541.8	541.8	542.8	539.8	537.8	539.8
167.5°	544.7	545.7	548.7	547.7	550.6	550.4	549.7	549.7	547.7	548.7	552.5
170°	551.6	552.5	555.5	554.5	556.5	556.3	555.5	554.5	553.5	555.5	560.5
172.5°	554.5	555.5	558.5	556.5	558.5	558.3	557.5	558.5	556.5	557.5	560.5
175°	556.5	558.5	559.5	558.5	561.4	561.4	561.4	562.4	559.5	557.5	560.5
177.5°	561.4	562.4	564.3	563.3	567.3	567.1	566.3	566.3	563.3	563.3	566.3
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7	386.7
2.5°	386.7	385.9	389.3	391.9	392.8	395.3	397.9	399.7	398.8	397.9	397.9
5°	385.9	386.7	392.8	397.9	402.2	406.6	410.0	411.6	410.9	410.9	410.9
7.5°	380.7	384.1	391.0	399.7	405.7	408.2	409.1	406.6	404.8	402.2	402.2
10°	372.2	377.3	388.4	397.9	400.6	397.1	391.9	386.7	379.8	375.6	375.6
12.5°	365.3	371.3	385.0	392.8	389.3	380.7	369.6	361.0	354.1	348.9	348.0
15°	359.2	367.0	381.6	383.3	375.6	361.0	346.4	337.0	329.2	325.7	325.7
17.5°	354.9	365.3	378.2	373.0	357.5	338.6	324.8	317.1	311.2	307.7	306.8
20°	355.8	368.8	374.8	360.1	337.8	318.0	305.2	300.8	296.5	294.7	294.7
22.5°	365.3	377.3	373.9	348.9	319.7	297.4	288.7	287.9	286.2	284.4	283.7
25°	385.9	394.4	376.4	337.8	300.8	278.5	274.2	276.8	275.9	274.2	274.2
27.5°	414.3	415.9	380.7	326.5	280.2	260.4	260.4	264.7	262.9	260.4	262.1
30°	448.6	439.2	382.5	308.6	256.1	243.2	245.8	248.4	246.7	243.2	243.2
32.5°	485.5	463.3	382.5	285.3	232.9	227.7	228.6	229.4	226.0	221.7	221.7
35°	521.6	486.4	378.2	257.8	214.9	212.3	211.4	214.9	212.3	206.3	206.3
37.5°	556.1	504.5	367.0	229.4	201.1	200.2	202.8	201.1	197.6	189.0	187.4
40°	580.1	516.5	344.6	206.3	189.9	195.1	193.3	184.0	178.8	172.7	172.7
42.5°	601.7	522.5	317.1	188.3	182.2	189.0	182.2	170.2	163.3	162.4	163.3
45°	621.4	527.7	290.5	173.6	172.7	182.2	173.6	160.7	153.0	153.0	153.8
47.5°	640.3	532.9	263.8	159.9	161.5	171.8	166.7	153.8	146.2	140.9	140.9
50°	670.3	544.9	225.1	145.3	148.7	163.3	161.5	147.0	138.4	130.6	128.9
52.5°	706.4	565.6	183.1	129.7	139.2	155.6	155.6	140.9	131.5	121.2	119.5
55°	754.6	587.9	147.0	118.6	129.7	147.0	149.6	138.4	124.7	115.2	113.5
57.5°	802.7	595.6	118.6	107.4	117.8	138.4	145.3	133.2	116.9	110.0	109.1
60°	836.2	570.6	99.7	97.9	109.1	128.1	139.2	127.2	111.7	104.8	104.8
62.5°	831.0	495.1	89.4	92.0	102.2	120.4	134.0	122.0	108.2	104.0	103.1
65°	758.0	373.9	80.8	86.8	96.3	112.6	128.9	119.5	106.6	102.2	100.6
67.5°	638.5	248.4	74.8	81.7	90.2	106.6	124.7	116.0	101.4	98.8	97.1
70°	462.4	145.3	68.8	76.4	84.2	99.7	118.6	109.1	95.4	93.6	89.4
72.5°	250.1	91.1	61.8	69.6	76.4	91.1	109.1	100.6	87.7	80.8	78.2
75°	114.4	66.1	55.0	61.8	67.0	79.9	97.9	88.6	78.2	69.6	67.9
77.5°	76.4	49.9	46.4	53.3	55.9	67.0	86.8	70.4	61.1	55.0	53.3
80°	52.4	37.0	37.8	43.8	43.0	53.3	65.3	56.8	48.1	49.9	45.5
82.5°	33.6	25.8	29.3	30.9	30.0	40.4	50.8	43.0	36.1	30.0	25.8
85°	14.6	13.7	17.2	18.1	18.1	22.4	26.6	21.5	16.3	12.0	12.0
87.5°	0.9	1.8	1.8	2.5	1.8	0.9	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	4.9	6.8	12.8	8.8	4.0	3.0	2.0	2.0	2.0
100°	24.5	25.5	26.5	29.5	31.4	29.5	21.6	13.7	9.8	7.8	7.8
102.5°	47.1	48.1	47.1	49.0	50.0	49.0	44.2	37.3	31.4	27.5	27.5
105°	67.7	69.7	67.7	69.7	69.7	68.7	64.8	59.8	55.0	53.0	53.0
107.5°	89.3	90.3	89.3	90.3	91.3	89.3	86.3	82.5	78.5	75.5	76.5
110°	110.9	111.9	110.9	111.9	111.9	110.0	108.0	104.0	101.1	100.1	99.2



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CATALOG NUMBER: ISC-AF-450-LED-E1-T4FT-7027-ULG

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	132.5	134.5	132.5	133.5	133.5	131.5	129.5	126.6	123.7	121.7	121.7
115°	156.0	157.0	155.0	155.0	155.0	153.1	151.2	148.2	146.2	144.3	143.3
117.5°	176.7	178.7	176.7	177.7	176.7	175.7	173.7	170.8	168.8	166.8	165.8
120°	200.2	202.2	200.2	200.2	200.2	198.3	197.3	194.3	192.3	191.4	189.5
122.5°	227.7	228.7	224.8	223.8	223.8	222.8	221.8	218.8	216.9	216.0	215.0
125°	251.3	252.2	249.3	249.3	248.3	247.3	246.3	243.4	242.5	241.5	239.5
127.5°	272.8	275.8	272.8	271.8	272.8	270.9	269.0	267.0	265.0	264.0	262.0
130°	297.4	299.3	296.4	295.5	295.5	293.5	292.5	288.5	287.5	286.6	284.7
132.5°	321.0	322.9	320.0	319.0	319.0	316.0	315.0	312.1	311.2	308.2	307.2
135°	343.5	344.5	342.5	341.5	341.5	338.6	338.6	334.7	332.7	330.8	329.8
137.5°	365.1	367.0	363.2	362.2	362.2	360.2	360.2	357.3	356.3	353.3	352.3
140°	386.7	388.7	384.7	382.8	382.8	381.8	380.8	378.8	377.8	375.9	375.0
142.5°	407.3	408.3	405.3	404.3	404.3	402.4	402.4	399.5	400.5	398.5	396.5
145°	427.0	428.9	426.0	425.0	426.0	424.0	423.0	420.0	420.0	418.1	417.2
147.5°	444.6	447.5	444.6	443.7	445.6	444.6	443.7	439.7	438.7	435.8	435.8
150°	461.3	464.2	460.3	460.3	462.3	461.3	460.3	456.4	455.4	453.5	452.5
152.5°	477.0	480.0	477.0	477.0	478.0	477.0	476.0	473.0	474.0	471.1	470.2
155°	495.7	497.6	494.7	493.7	494.7	493.7	493.7	491.7	492.7	490.7	489.8
157.5°	510.3	513.3	508.4	507.5	509.4	509.4	509.4	506.5	507.5	505.5	503.5
160°	521.2	523.2	520.2	520.2	522.2	522.2	522.2	519.2	519.2	517.2	515.3
162.5°	527.0	530.0	528.0	530.0	532.0	531.0	531.0	528.0	529.0	526.0	525.1
165°	537.8	539.8	537.8	539.8	542.8	541.8	541.8	537.8	538.8	536.8	535.9
167.5°	550.6	552.5	548.7	547.7	549.7	549.7	550.6	547.7	548.7	545.7	544.7
170°	558.5	560.5	555.5	553.5	554.5	555.5	556.5	554.5	555.5	552.5	551.6
172.5°	557.5	560.5	557.5	556.5	558.5	557.5	558.5	556.5	558.5	555.5	554.5
175°	557.5	560.5	557.5	559.5	562.4	561.4	561.4	558.5	559.5	558.5	556.5
177.5°	563.3	566.3	563.3	563.3	566.3	566.3	567.3	563.3	564.3	562.4	561.4
180°	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3	565.3

(END OF REPORT)