

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: P226438

Luminaire Tested: **IST-AF-450-LED-E1-T3-7050-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226438  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35938)-DOWNLIGHT AND  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: IST-AF-450-LED-E1-T3-7050-ULG  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, WITH UPLIGHT GLOW  
Light Source: (16) 5000K CCT, 70 CRI LEDs and (1) UPLIGHT LED  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4880.9 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B1 - U5 - G1

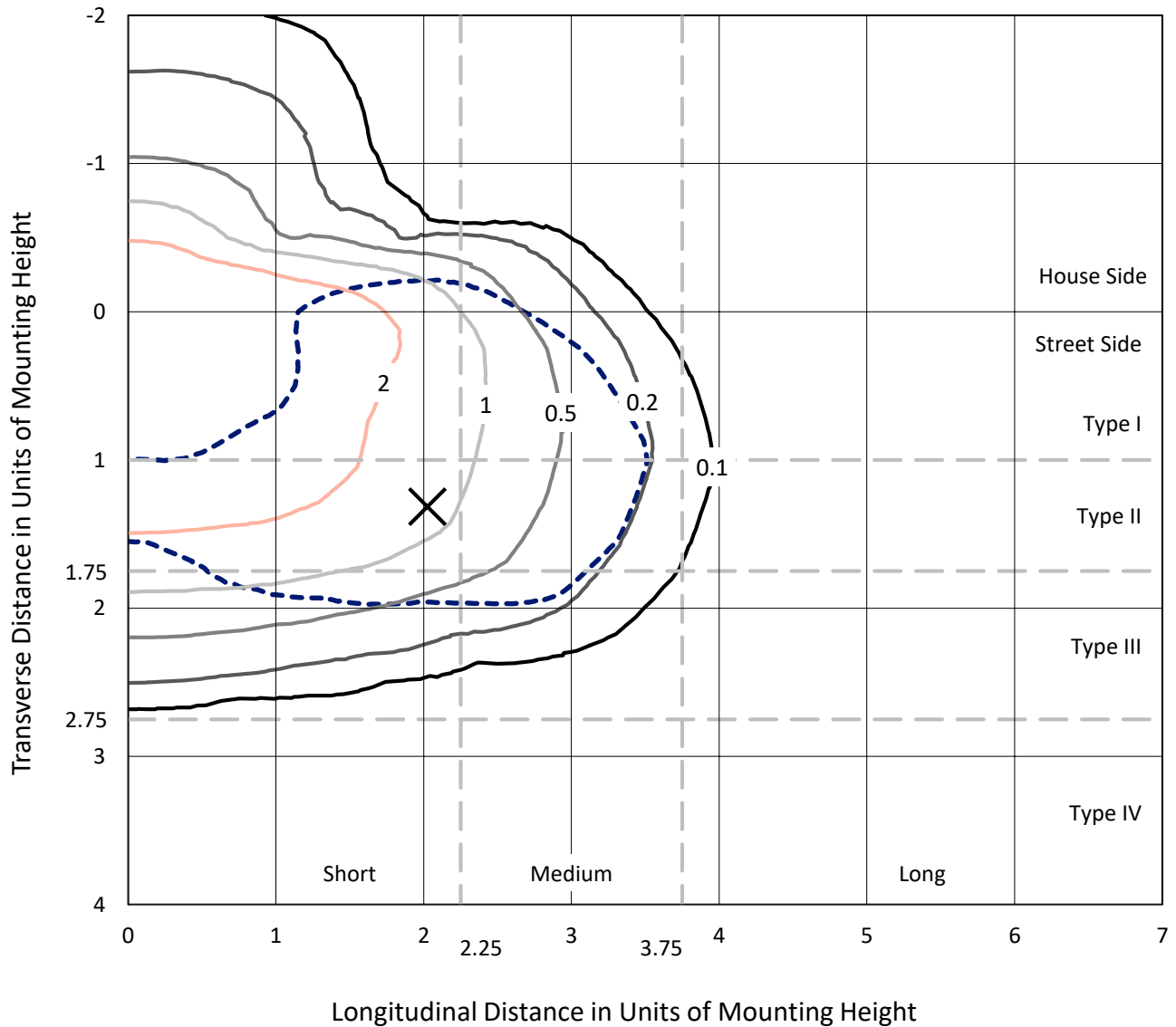
Input Watts (W): 42.01  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

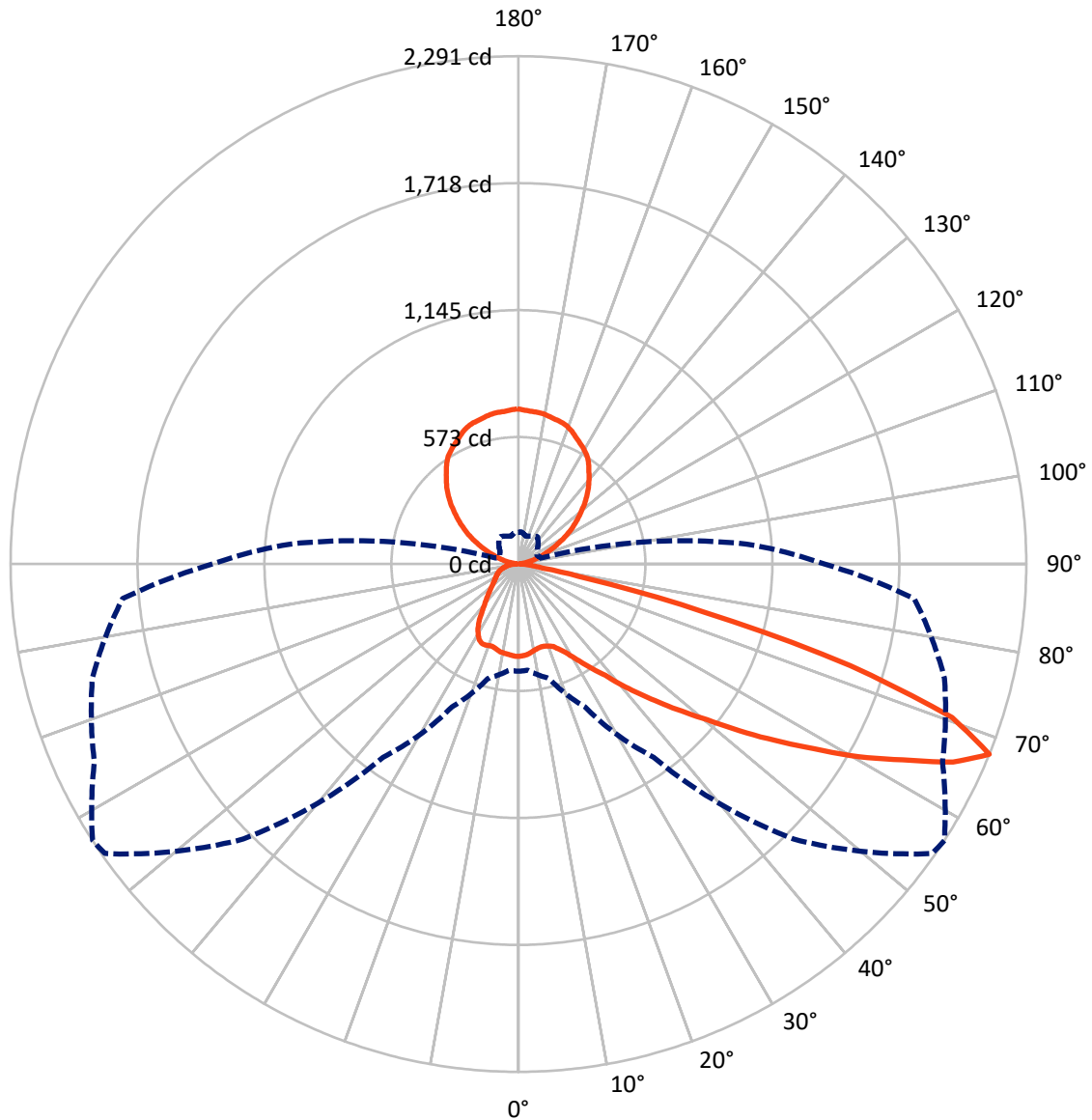
× Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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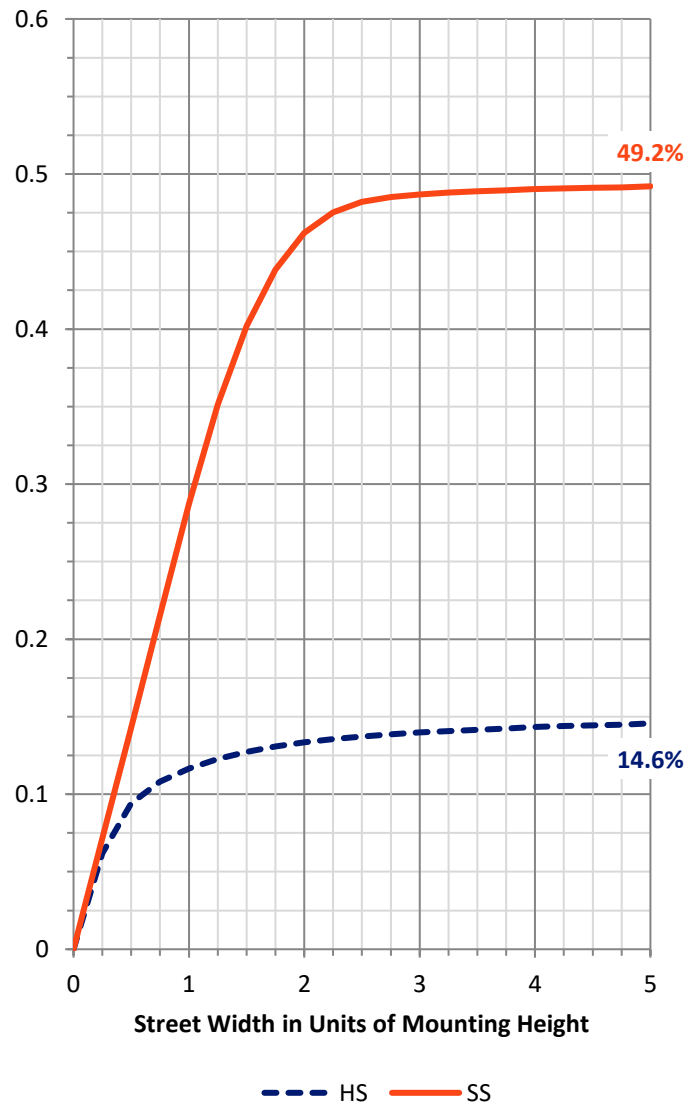
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	732.3	868.5	1600.8
	% Fixture	15.0	17.8	32.8
<b>Street Side</b>	Lumens	2412.2	867.8	3280.1
	% Fixture	49.4	17.8	67.2
<b>Total</b>	Lumens	3144.6	1736.3	4880.9
	% Fixture	64.4	35.6	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.0	0.8
10°-20°	112.0	2.3
20°-30°	192.8	3.9
30°-40°	313.4	6.4
40°-50°	505.6	10.4
50°-60°	753.8	15.4
60°-70°	848.9	17.4
70°-80°	327.3	6.7
80°-90°	51.7	1.1
90°-100°	10.4	0.2
100°-110°	57.4	1.2
110°-120°	166.1	3.4
120°-130°	273.2	5.6
130°-140°	336.8	6.9
140°-150°	344.6	7.1
150°-160°	290.3	5.9
160°-170°	191.2	3.9
170°-180°	66.3	1.4
0°-90°	3144.6	64.4
0°-180°	4880.9	100.0



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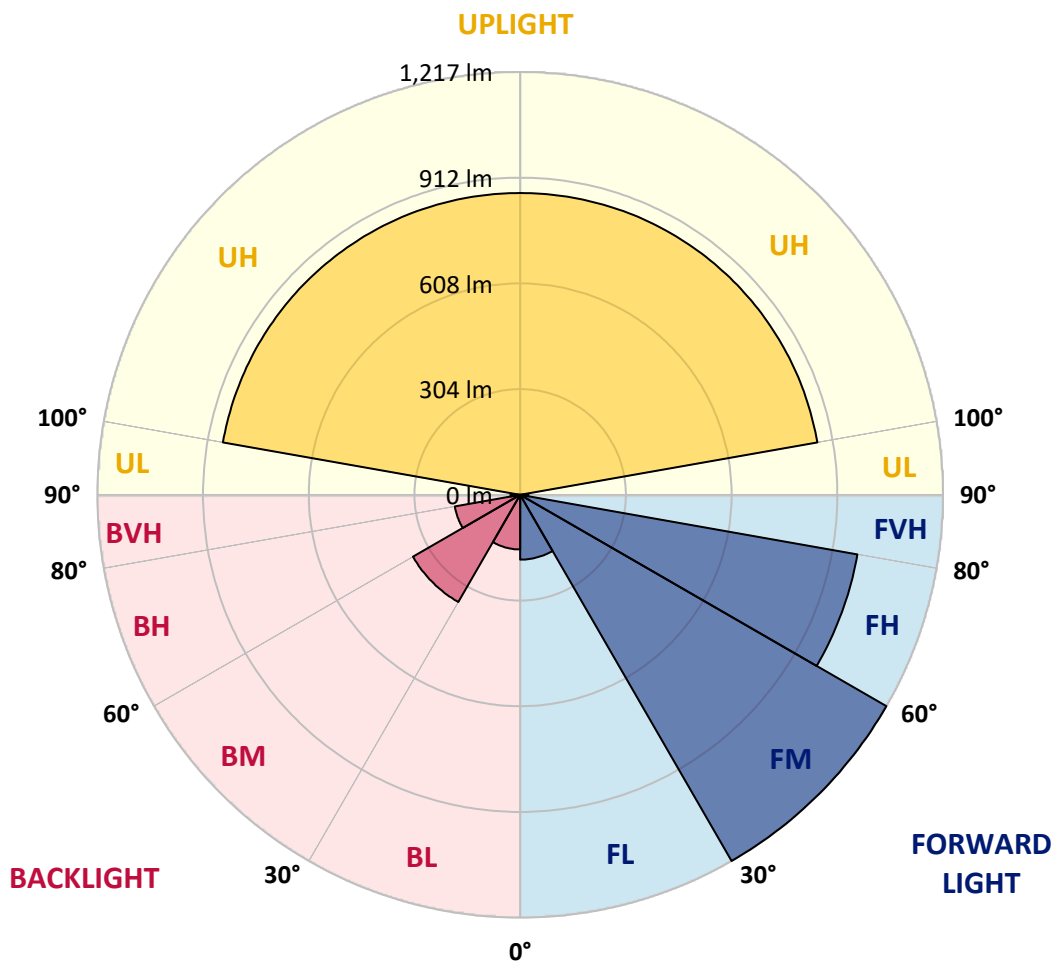
CATALOG NUMBER: IST-AF-450-LED-E1-T3-7050-ULG

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	186.5	3.8			
FM (30°-60°)	1216.6	24.9			
FH (60°-80°)	985.3	20.2			G1/1800
FVH (80°-90°)	23.8	0.5			G1/100
BL (0°-30°)	157.2	3.2	B1/500		
BM (30°-60°)	356.2	7.3	B1/1000		
BH (60°-80°)	191.0	3.9	B1/500		G1/500
BVH (80°-90°)	27.9	0.6			G1/100
UL (90°-100°)	10.4	0.2		U2/50	
UH (100°-180°)	868.5	17.8		U4/1000	

**BUG Rating: B1-U5-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7
2.5°	413.5	414.5	415.4	414.9	414.9	414.9	414.9	414.9	415.4	415.4	414.5
5°	406.7	407.2	407.6	408.5	409.4	410.4	410.8	410.8	411.3	410.8	409.9
7.5°	396.7	397.2	399.0	399.0	399.9	401.7	402.6	403.5	404.9	404.9	404.4
10°	393.5	393.5	393.5	392.1	393.1	393.5	394.9	394.9	398.5	400.3	401.3
12.5°	397.2	396.7	396.7	393.1	389.9	388.5	389.9	390.3	394.4	397.2	399.0
15°	405.3	405.3	404.4	399.0	392.6	387.6	387.1	387.1	390.3	394.4	397.6
17.5°	424.5	426.3	419.9	411.3	400.8	392.6	389.4	389.0	391.2	394.4	397.6
20°	460.9	460.5	450.9	435.4	417.2	403.5	395.8	394.9	394.4	396.2	399.9
22.5°	504.2	502.4	491.0	471.4	446.3	421.3	406.3	404.4	400.8	402.2	407.2
25°	550.6	551.1	537.0	511.5	480.0	450.0	427.2	425.4	417.6	416.7	422.2
27.5°	597.1	603.0	583.9	559.7	522.4	486.4	453.2	450.4	443.6	441.3	446.8
30°	665.0	662.7	639.0	607.6	570.2	525.1	493.3	488.2	474.6	477.8	483.7
32.5°	722.3	727.4	705.9	668.6	619.4	572.0	535.2	532.4	519.2	522.9	531.1
35°	792.5	804.3	776.1	730.1	682.7	634.0	589.8	582.5	572.0	579.3	585.7
37.5°	872.6	878.6	856.7	797.5	749.2	698.2	648.1	636.7	625.3	640.4	651.7
40°	949.2	958.7	930.5	880.4	824.4	775.6	721.0	718.7	692.3	708.7	738.3
42.5°	1062.6	1074.4	1029.3	971.0	920.5	861.7	809.8	797.5	768.8	792.0	841.7
45°	1141.8	1141.4	1110.8	1062.6	1031.6	974.7	904.5	889.9	859.0	889.9	956.4
47.5°	1170.5	1177.3	1166.9	1160.9	1150.0	1108.6	1005.2	991.5	962.4	1008.4	1069.8
50°	1212.9	1211.0	1211.0	1247.5	1278.9	1270.2	1123.1	1103.6	1073.0	1128.1	1216.5
52.5°	1223.8	1207.4	1232.9	1302.6	1402.3	1409.6	1260.2	1249.3	1212.9	1266.6	1375.5
55°	1193.3	1189.2	1229.7	1330.8	1488.0	1539.9	1419.2	1404.1	1363.2	1409.2	1547.2
57.5°	1125.0	1135.4	1200.6	1324.9	1547.2	1654.6	1593.6	1572.2	1513.5	1541.2	1717.5
60°	1053.5	1058.5	1144.5	1303.9	1563.1	1734.3	1776.7	1764.4	1663.8	1680.1	1843.7
62.5°	974.2	962.4	1051.6	1286.6	1545.3	1844.1	1954.3	1944.8	1825.9	1820.9	1933.4
65°	752.9	769.3	845.3	1063.5	1423.7	1929.7	2166.1	2153.8	2006.7	1937.0	1923.8
67.5°	483.7	480.5	534.2	711.0	1063.9	1753.9	2276.8	2290.5	2110.1	1989.4	1791.7
70°	173.5	178.5	198.6	322.9	583.4	1168.7	2007.2	2075.0	2034.0	1891.5	1458.3
72.5°	105.7	105.7	120.2	145.3	236.4	554.3	1430.6	1564.9	1660.1	1558.5	1077.1
75°	82.9	82.4	87.4	100.2	127.5	181.7	760.6	864.4	1064.8	1076.7	613.0
77.5°	65.6	65.1	70.1	76.1	95.2	96.1	242.8	316.1	488.7	460.0	219.1
80°	52.8	52.4	56.0	57.8	69.7	66.5	97.5	113.0	171.2	150.3	94.7
82.5°	47.8	47.8	51.5	44.2	48.3	46.9	60.6	64.7	86.1	89.3	56.9
85°	31.0	31.9	48.3	42.8	31.4	28.7	38.7	41.0	53.7	58.8	27.8
87.5°	14.6	15.9	36.9	35.5	21.0	15.5	21.9	23.2	29.1	36.0	16.4
90°	7.7	7.7	11.6	13.0	10.7	9.7	10.6	10.6	12.2	13.6	11.6
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	6.0	6.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.2	8.0	7.0	7.0
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.6	10.0	9.0	8.0
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	28.4	26.0	23.0	19.0
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	49.4	47.0	42.0	39.0
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.6	70.0	65.0	61.0
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.8	94.0	90.0	87.0
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.2	121.0	119.0	116.0

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	148.4	150.0	149.0	147.0
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	179.6	182.0	179.0	177.0
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	211.8	215.0	210.0	208.0
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	246.8	250.0	245.0	243.0
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	279.8	283.0	278.0	276.0
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	313.4	315.0	310.0	310.0
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.2	346.0	346.0	345.0
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	377.8	381.0	381.0	379.0
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	412.0	416.0	414.0	414.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	444.0	448.0	447.0	450.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	473.4	475.0	476.0	481.0
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	500.4	502.0	504.0	509.0
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	528.2	533.0	533.0	534.0
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	557.2	562.0	561.0	558.0
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	581.0	585.0	586.0	583.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	597.6	600.0	603.0	606.0
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	611.6	614.0	618.0	623.0
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	627.0	631.0	636.0	638.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	644.8	648.0	650.0	650.0
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	659.2	664.0	661.0	660.0
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	667.8	671.0	670.0	668.0
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	673.0	677.0	680.0	678.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	679.2	684.0	688.0	688.0
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	686.6	689.0	694.0	696.0
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	689.6	692.0	694.0	696.0
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	691.0	695.0	696.0	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	695.0	699.0	701.0	698.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7	416.7
2.5°	415.8	414.9	415.4	415.8	416.3	417.6	418.1	418.1	418.1	417.6	418.6
5°	410.8	409.9	409.9	411.3	412.6	414.5	417.2	419.5	420.4	420.8	420.8
7.5°	405.3	404.4	404.9	407.2	409.4	410.8	413.5	414.9	418.6	418.6	419.5
10°	401.7	402.6	403.1	405.3	407.2	407.2	406.7	405.8	404.9	407.2	406.3
12.5°	399.4	400.8	400.3	403.1	404.0	400.3	394.9	387.6	386.7	387.6	388.5
15°	398.5	398.5	399.9	399.9	395.3	388.0	381.2	381.7	382.6	385.3	385.3
17.5°	398.5	399.0	399.9	396.7	388.5	382.1	380.8	379.4	374.4	373.0	371.6
20°	401.7	400.8	401.7	395.8	388.5	383.5	373.0	363.0	353.4	349.3	347.5
22.5°	409.4	408.1	407.6	401.7	392.6	375.7	355.2	339.8	323.4	317.9	316.1
25°	423.1	422.7	419.5	415.4	389.9	357.1	331.1	306.5	288.8	279.2	279.6
27.5°	447.3	447.3	445.4	427.2	375.7	333.8	298.8	273.7	255.5	246.4	245.0
30°	483.7	484.6	485.5	430.4	353.4	299.7	263.2	246.4	235.5	228.6	228.2
32.5°	528.8	533.8	527.9	426.8	322.9	258.2	235.5	229.5	224.1	219.5	219.1
35°	588.4	602.1	564.8	412.2	288.8	230.0	218.6	214.5	210.4	207.2	207.7
37.5°	668.6	681.8	588.4	387.6	245.0	214.1	209.1	202.7	196.3	189.5	188.6
40°	763.3	759.2	596.6	341.1	217.7	206.3	199.5	191.3	180.4	170.3	168.5
42.5°	858.1	830.7	589.8	283.7	199.9	199.5	189.9	179.4	168.5	159.9	159.9
45°	964.2	893.6	568.9	230.0	185.8	192.2	180.4	169.4	159.4	153.0	152.6
47.5°	1064.4	952.3	534.2	191.7	171.7	182.6	173.1	163.1	153.5	148.0	146.7
50°	1181.9	1019.3	507.8	165.8	158.0	173.1	169.0	159.9	150.8	144.4	143.5
52.5°	1300.8	1084.4	487.8	148.0	145.7	165.8	167.1	161.7	152.1	139.8	138.9
55°	1425.1	1165.9	447.7	133.9	134.8	160.3	169.4	165.3	158.5	138.5	137.5
57.5°	1529.4	1241.1	377.6	124.3	126.2	156.2	170.3	162.6	154.9	139.4	138.0
60°	1610.9	1292.6	276.9	116.6	118.4	151.7	166.2	153.0	143.0	139.4	137.1
62.5°	1636.0	1294.4	184.0	107.5	112.5	143.9	159.0	148.0	136.2	138.0	137.1
65°	1573.1	1226.1	131.6	98.8	107.5	134.8	155.8	143.0	133.0	140.3	139.4
67.5°	1379.6	1033.0	105.7	92.0	100.7	125.2	149.8	138.5	130.3	145.3	142.6
70°	1074.9	741.0	89.7	85.2	93.4	116.1	141.6	133.4	126.6	141.2	137.5
72.5°	708.7	436.3	79.2	78.8	84.7	108.4	132.5	128.9	120.7	128.0	122.5
75°	369.8	202.2	68.8	71.5	75.1	101.6	124.3	120.7	111.6	114.3	112.5
77.5°	145.3	94.7	59.7	62.9	67.0	91.5	113.9	110.2	102.5	100.2	99.7
80°	79.7	63.8	49.6	53.7	56.5	82.4	102.9	98.8	90.6	89.3	87.9
82.5°	50.6	41.4	41.0	43.7	47.4	73.3	92.5	86.1	79.2	93.4	75.6
85°	23.7	24.6	29.1	32.8	36.9	62.4	80.6	73.8	67.0	65.1	57.8
87.5°	13.2	16.4	19.1	22.3	25.5	43.7	63.8	57.4	50.1	42.8	44.2
90°	10.2	10.2	14.5	14.0	12.5	13.4	39.4	36.2	32.0	16.8	12.7
92.5°	6.0	6.0	6.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	4.0
95°	7.0	7.0	7.0	8.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0
97.5°	8.0	8.0	9.0	10.0	12.0	9.0	9.0	8.0	8.0	7.0	7.0
100°	19.0	19.0	23.0	26.0	29.0	21.0	12.0	10.0	9.0	8.0	8.0
102.5°	38.0	39.0	42.0	47.0	50.0	40.0	27.0	18.0	13.0	11.0	11.0
105°	61.0	61.0	65.0	70.0	72.0	63.0	48.0	36.0	27.0	22.0	21.0
107.5°	86.0	87.0	90.0	94.0	95.0	88.0	73.0	58.0	49.0	42.0	41.0
110°	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	74.0	68.0	66.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	147.0	147.0	149.0	150.0	148.0	143.0	134.0	121.0	106.0	99.0	99.0
115°	178.0	177.0	179.0	182.0	179.0	174.0	168.0	159.0	147.0	139.0	140.0
117.5°	209.0	208.0	210.0	215.0	211.0	205.0	202.0	197.0	189.0	184.0	184.0
120°	243.0	243.0	245.0	250.0	246.0	243.0	237.0	233.0	226.0	223.0	225.0
122.5°	277.0	276.0	278.0	283.0	279.0	277.0	271.0	267.0	261.0	260.0	263.0
125°	310.0	310.0	310.0	315.0	313.0	310.0	305.0	299.0	296.0	294.0	298.0
127.5°	347.0	345.0	346.0	346.0	345.0	340.0	339.0	333.0	329.0	329.0	330.0
130°	380.0	379.0	381.0	381.0	377.0	372.0	370.0	366.0	362.0	361.0	363.0
132.5°	415.0	414.0	414.0	416.0	411.0	405.0	404.0	401.0	393.0	394.0	396.0
135°	451.0	450.0	447.0	448.0	443.0	437.0	435.0	432.0	426.0	426.0	429.0
137.5°	482.0	481.0	476.0	475.0	473.0	468.0	464.0	460.0	459.0	457.0	460.0
140°	511.0	509.0	504.0	502.0	500.0	497.0	491.0	489.0	487.0	485.0	488.0
142.5°	536.0	534.0	533.0	533.0	527.0	525.0	521.0	518.0	517.0	515.0	518.0
145°	560.0	558.0	561.0	562.0	556.0	551.0	550.0	547.0	544.0	546.0	550.0
147.5°	585.0	583.0	586.0	585.0	580.0	575.0	574.0	574.0	571.0	572.0	575.0
150°	610.0	606.0	603.0	600.0	597.0	593.0	593.0	593.0	593.0	592.0	595.0
152.5°	628.0	623.0	618.0	614.0	611.0	610.0	610.0	609.0	608.0	608.0	611.0
155°	641.0	638.0	636.0	631.0	626.0	628.0	630.0	627.0	625.0	625.0	629.0
157.5°	655.0	650.0	650.0	648.0	644.0	645.0	646.0	644.0	643.0	643.0	646.0
160°	666.0	660.0	661.0	664.0	658.0	655.0	655.0	656.0	659.0	660.0	663.0
162.5°	674.0	668.0	670.0	671.0	667.0	663.0	661.0	665.0	669.0	669.0	673.0
165°	682.0	678.0	680.0	677.0	672.0	673.0	673.0	676.0	676.0	678.0	681.0
167.5°	694.0	688.0	688.0	684.0	678.0	685.0	688.0	686.0	684.0	687.0	690.0
170°	701.0	696.0	694.0	689.0	686.0	691.0	693.0	692.0	692.0	695.0	698.0
172.5°	701.0	696.0	694.0	692.0	689.0	690.0	690.0	693.0	695.0	697.0	699.0
175°	699.0	694.0	696.0	695.0	690.0	690.0	691.0	695.0	697.0	698.0	700.0
177.5°	702.0	698.0	701.0	699.0	694.0	695.0	697.0	699.0	700.0	705.0	707.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0

(END OF REPORT)