

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: P821177

Luminaire Tested: **TT-D5-830-24VDC-DL-UPL**

Issue Date: 5/10/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P821177  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND  
Test Lab: INNOVATION CENTER  
Issue Date: 5/10/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TT-D5-830-24VDC-DL-UPL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3000K, 80 CRI LEDS AND DRIVE LANE DISTRIBUTION  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

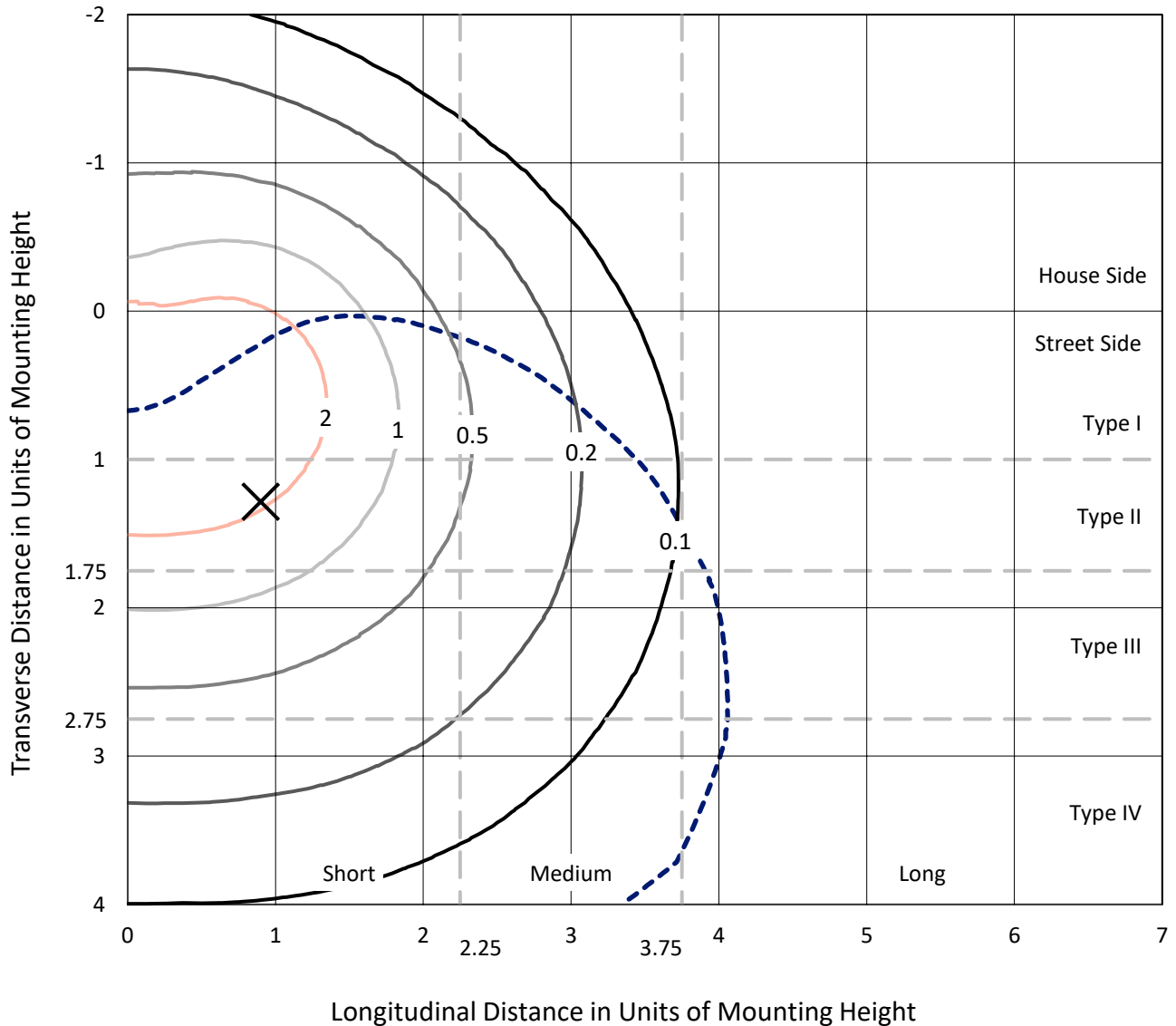
Lumens per Lamp: N/A  
Luminaire Lumens: 7372.7 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U4 - G3

Input Watts (W): 73  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

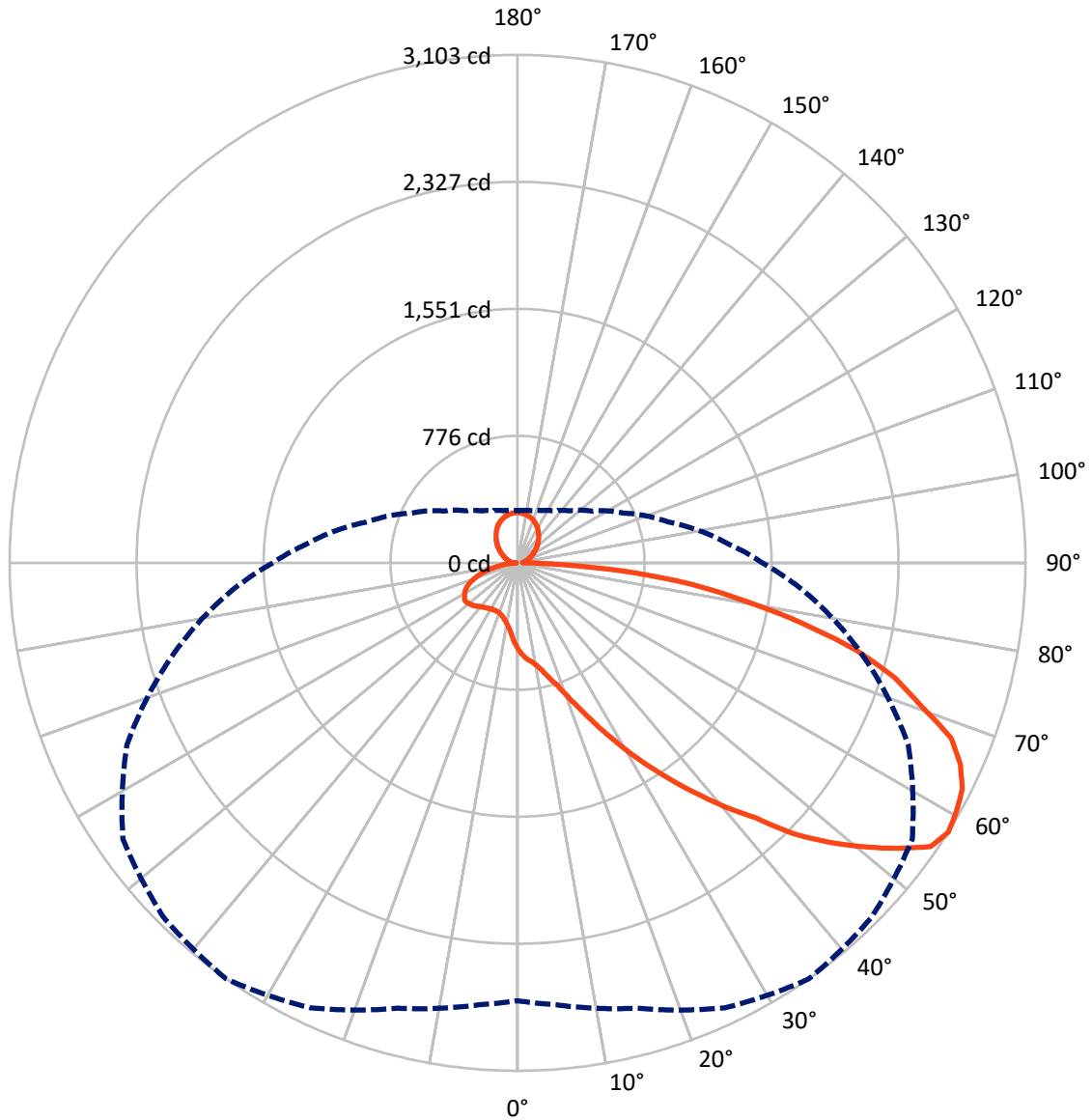
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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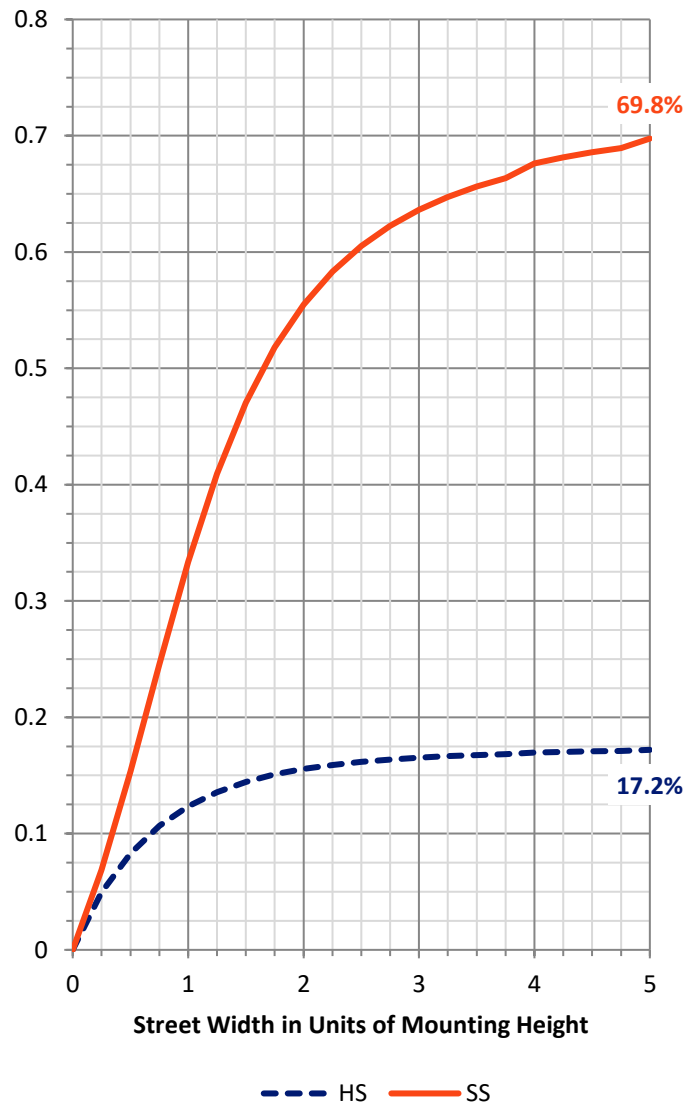
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1282.1	415.9	1698.0
	% Fixture	17.4	5.6	23.0
<b>Street Side</b>	Lumens	5258.9	415.9	5674.8
	% Fixture	71.3	5.6	77.0
<b>Total</b>	Lumens	6541.0	831.7	7372.7
	% Fixture	88.7	11.3	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.9	0.7
10°-20°	154.2	2.1
20°-30°	326.1	4.4
30°-40°	611.0	8.3
40°-50°	1017.0	13.8
50°-60°	1435.4	19.5
60°-70°	1510.2	20.5
70°-80°	1106.3	15.0
80°-90°	331.8	4.5
90°-100°	42.6	0.6
100°-110°	66.0	0.9
110°-120°	91.9	1.2
120°-130°	119.0	1.6
130°-140°	138.7	1.9
140°-150°	140.5	1.9
150°-160°	121.9	1.7
160°-170°	82.2	1.1
170°-180°	28.9	0.4
0°-90°	6541.0	88.7
0°-180°	7372.7	100.0

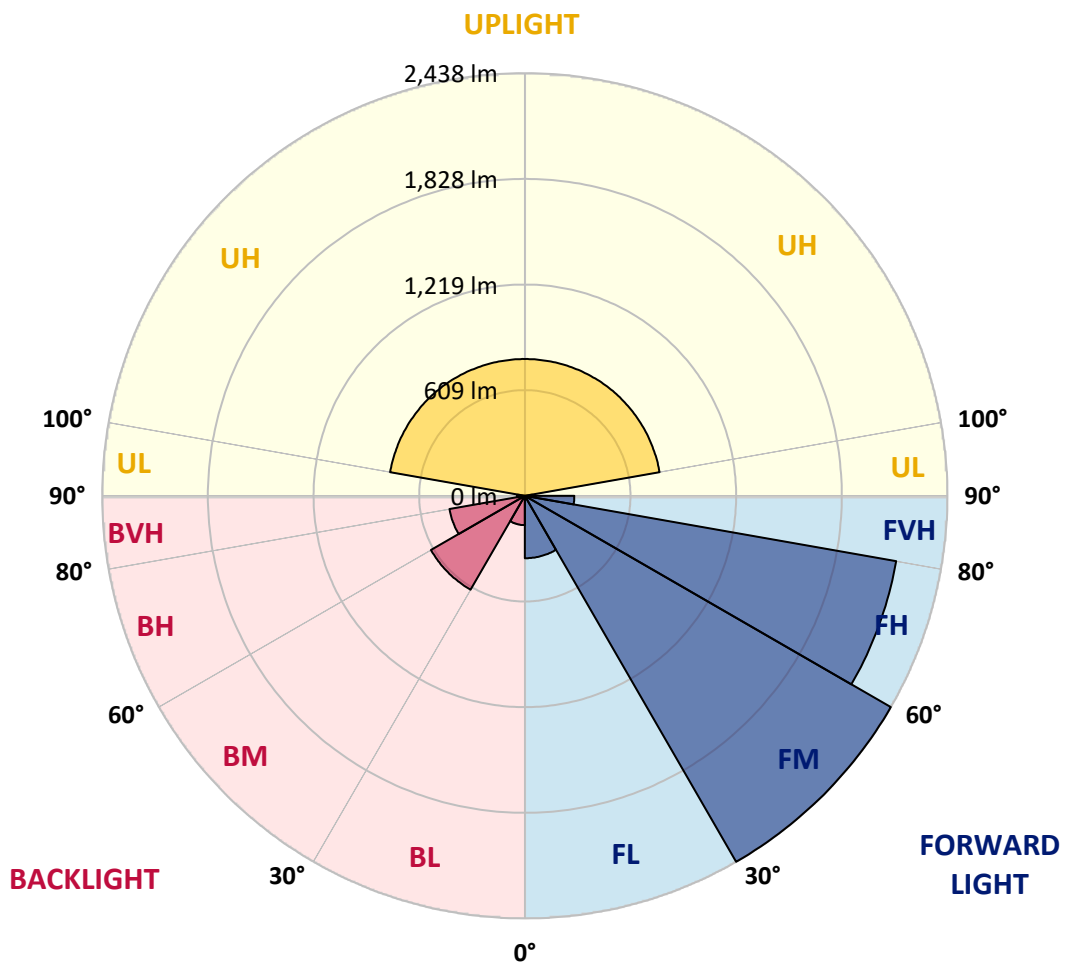


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	360.2	4.9			
FM (30°-60°)	2437.9	33.1			
FH (60°-80°)	2175.2	29.5			G2/5000
FVH (80°-90°)	285.6	3.9			G3/500
BL (0°-30°)	169.1	2.3	B1/500		
BM (30°-60°)	625.5	8.5	B1/1000		
BH (60°-80°)	441.2	6.0	B1/500		G1/500
BVH (80°-90°)	46.2	0.6			G1/100
UL (90°-100°)	42.6	0.6		U2/50	
UH (100°-180°)	789.1	10.7		U4/1000	

**BUG Rating: B1-U4-G3**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6
2.5°	574.4	571.6	569.1	565.1	562.3	561.5	556.2	549.8	540.9	533.2	529.2
5°	604.7	604.3	603.1	598.2	589.3	576.8	565.1	551.8	537.3	522.7	515.9
7.5°	633.3	630.5	628.9	622.0	609.1	595.4	577.6	557.8	536.9	516.3	505.8
10°	669.3	665.2	662.4	649.1	635.7	616.4	593.0	567.5	542.5	516.7	504.2
12.5°	715.3	712.0	700.3	693.9	676.9	654.7	625.3	594.6	562.3	529.2	513.0
15°	764.5	765.3	760.9	744.3	730.6	704.0	672.5	634.1	590.5	550.6	530.4
17.5°	830.3	829.1	820.6	809.7	788.7	761.7	722.9	682.2	631.3	578.8	555.8
20°	907.8	903.8	896.1	881.2	868.7	836.8	792.8	741.9	681.4	619.2	588.1
22.5°	1006.3	997.4	992.6	979.3	963.9	934.0	887.2	819.8	748.8	671.7	631.7
25°	1102.8	1107.6	1105.2	1097.5	1078.1	1041.4	991.8	917.5	820.2	730.2	685.0
27.5°	1223.9	1225.9	1226.7	1223.5	1204.5	1171.0	1120.5	1022.4	913.9	802.1	742.3
30°	1349.8	1345.4	1351.0	1352.6	1343.3	1304.6	1242.8	1135.5	1005.5	871.9	804.9
32.5°	1474.9	1479.8	1491.5	1484.2	1485.8	1441.8	1374.4	1248.1	1103.2	945.8	875.1
35°	1609.8	1616.2	1624.3	1638.0	1637.2	1602.1	1504.8	1378.1	1208.9	1030.9	939.3
37.5°	1747.8	1746.2	1758.3	1789.8	1795.8	1762.3	1660.6	1514.5	1319.9	1116.9	1014.8
40°	1878.6	1893.5	1916.9	1938.3	1964.2	1916.5	1817.6	1652.1	1440.6	1206.1	1085.8
42.5°	2031.2	2037.2	2071.9	2120.0	2126.8	2090.1	1982.3	1810.8	1560.5	1290.9	1163.3
45°	2193.0	2201.1	2233.8	2303.2	2359.3	2335.5	2189.4	1985.6	1709.1	1406.3	1248.9
47.5°	2332.7	2356.5	2409.0	2489.3	2549.0	2536.5	2396.5	2157.1	1851.1	1503.2	1331.6
50°	2457.0	2485.7	2557.1	2673.0	2726.2	2709.7	2573.3	2326.6	1954.9	1587.1	1391.8
52.5°	2583.0	2622.9	2688.3	2815.1	2898.2	2904.7	2752.5	2456.2	2075.2	1675.1	1457.6
55°	2651.2	2680.2	2789.6	2943.4	3060.9	3064.1	2892.1	2577.7	2158.3	1713.9	1488.7
57.5°	2675.0	2710.1	2816.7	2998.7	3102.9	3059.7	2942.6	2632.6	2181.7	1728.0	1495.1
60°	2641.9	2677.0	2798.5	2992.7	3080.7	3101.6	2920.4	2632.2	2170.0	1709.9	1475.3
62.5°	2594.7	2639.5	2757.3	2946.6	3048.4	3060.1	2891.7	2602.3	2152.7	1678.8	1446.3
65°	2474.8	2501.8	2674.2	2815.5	2972.5	2958.3	2825.9	2498.2	2091.3	1598.5	1375.2
67.5°	2355.3	2383.6	2510.3	2704.0	2856.2	2840.9	2710.5	2397.3	1973.4	1523.8	1301.0
70°	2153.9	2172.0	2346.8	2497.4	2611.2	2667.7	2499.4	2229.0	1849.9	1398.6	1187.9
72.5°	1940.7	1969.4	2094.5	2283.4	2412.2	2394.0	2309.7	2021.9	1648.5	1253.3	1070.9
75°	1668.3	1695.7	1834.2	2016.6	2141.8	2127.2	2031.2	1775.7	1465.2	1084.6	927.2
77.5°	1410.8	1402.3	1524.6	1663.0	1776.9	1810.4	1702.2	1501.6	1208.5	891.3	754.8
80°	1083.8	1116.1	1192.8	1321.5	1407.5	1426.5	1342.9	1188.3	965.5	697.5	578.8
82.5°	763.3	780.3	873.9	955.0	1062.8	1055.9	998.2	863.0	701.1	489.6	398.8
85°	416.6	420.2	505.0	561.9	645.0	655.1	614.4	521.9	401.2	278.5	205.5
87.5°	73.1	71.8	104.1	152.6	193.8	208.3	173.2	135.6	54.9	32.7	17.0
90°	30.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
92.5°	34.8	34.2	34.2	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
95°	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5
97.5°	44.6	44.6	44.6	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	55.9	55.9	55.9	55.9	55.9	56.4	55.9	55.9	55.9
105°	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.9	62.0	62.0	62.0
107.5°	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.5	69.0	69.0	69.0
110°	75.1	75.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	83.1	83.1	84.0	84.0	84.0	84.0	84.6	84.6	84.0	84.0	84.0
115°	91.1	91.1	92.0	92.0	92.0	92.0	93.0	93.0	92.0	92.0	92.0
117.5°	100.5	100.5	101.0	101.4	101.4	101.4	102.4	102.4	101.4	101.4	101.4
120°	109.9	109.9	109.9	110.8	110.8	110.8	111.8	111.8	110.8	110.8	110.8
122.5°	120.7	120.7	121.2	121.6	121.6	121.6	122.6	122.6	122.1	122.1	121.6
125°	131.5	131.5	132.4	132.4	132.4	132.4	133.4	133.4	133.4	133.4	132.4
127.5°	143.2	143.2	144.2	144.2	144.2	144.2	145.1	145.1	145.1	145.1	144.2
130°	155.0	155.0	155.9	155.9	155.9	155.9	156.8	156.8	156.8	156.8	155.9
132.5°	167.2	167.2	167.6	167.6	167.6	168.1	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	180.3	180.3	180.3	180.3	180.3	180.3
137.5°	191.2	190.6	191.2	190.6	191.2	191.6	191.6	191.6	191.6	191.6	191.6
140°	202.9	201.9	202.9	201.9	202.9	202.9	202.9	202.9	202.9	202.9	202.9
142.5°	213.7	213.2	213.7	212.7	213.7	213.7	213.7	213.7	213.7	213.7	213.7
145°	224.5	224.5	224.5	223.5	224.5	224.5	224.5	224.5	224.5	224.5	224.5
147.5°	235.8	235.3	235.8	234.8	235.8	235.8	235.8	235.8	235.8	235.8	235.8
150°	247.0	246.1	247.0	246.1	247.0	247.0	247.0	247.0	247.0	247.0	247.0
152.5°	256.0	255.5	256.4	255.5	256.0	256.0	256.4	256.0	256.0	256.0	256.0
155°	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9	264.9	264.9
157.5°	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4	272.4	272.4
160°	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9	279.9	279.9
162.5°	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.0
165°	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1	292.1	292.1
167.5°	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8	295.8	295.8
170°	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6	299.6	299.6
172.5°	302.0	302.0	302.8	302.0	302.0	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	304.3	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.2	305.2	305.7	305.2	305.2	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6	527.6
2.5°	524.7	516.7	509.0	501.7	494.9	489.2	486.8	484.8	484.4	480.7
5°	507.4	494.5	480.3	467.4	455.7	443.2	433.1	429.9	429.5	431.5
7.5°	496.1	476.3	456.9	441.6	424.2	407.7	392.8	383.5	381.0	380.2
10°	492.0	467.8	444.4	421.0	401.6	381.4	363.3	352.0	345.5	343.9
12.5°	497.3	466.6	437.6	410.1	383.9	361.7	341.1	327.0	319.7	317.3
15°	511.4	471.9	435.1	402.0	373.4	345.5	325.3	307.2	298.7	297.5
17.5°	530.0	483.6	436.7	398.0	364.1	334.6	311.2	292.2	281.7	280.1
20°	556.6	498.5	444.4	398.4	360.1	327.0	300.7	280.5	269.2	268.0
22.5°	594.2	522.3	456.9	403.6	360.1	322.5	294.3	273.3	261.6	260.4
25°	637.0	549.8	473.9	410.9	361.3	321.7	290.6	268.4	256.7	255.5
27.5°	686.2	583.3	492.0	420.2	365.7	322.5	289.4	267.2	255.9	254.3
30°	741.5	616.4	511.8	430.3	371.4	324.1	289.8	266.8	255.9	254.3
32.5°	796.8	652.7	534.0	443.6	377.8	328.6	292.2	269.6	258.3	257.1
35°	854.9	692.7	558.7	457.3	387.1	334.6	296.3	272.9	261.6	260.4
37.5°	915.1	733.0	584.1	474.3	396.8	340.7	301.9	278.5	267.6	266.4
40°	977.6	774.6	611.1	491.6	406.1	348.8	308.8	285.8	274.5	273.3
42.5°	1031.7	812.1	636.2	506.6	418.2	356.4	317.7	293.5	283.0	281.7
45°	1108.0	854.9	662.0	525.1	432.7	370.1	328.2	305.6	295.9	293.5
47.5°	1171.8	898.5	688.2	542.9	444.8	379.4	338.3	315.3	305.2	303.5
50°	1223.9	926.0	708.8	552.2	451.3	385.5	346.3	322.9	314.0	311.2
52.5°	1278.8	957.1	719.7	563.1	461.8	394.0	352.0	331.8	322.1	319.3
55°	1296.5	958.7	727.8	565.1	460.2	396.0	355.6	332.2	324.5	321.7
57.5°	1297.7	958.3	716.9	551.4	448.9	387.1	352.0	329.8	320.9	318.5
60°	1275.1	934.4	695.1	534.8	436.7	374.6	341.9	320.5	313.6	311.2
62.5°	1246.9	912.7	668.0	512.2	419.4	362.1	330.2	313.6	304.4	301.5
65°	1175.4	855.3	626.9	481.6	394.4	343.1	311.6	295.5	288.2	286.2
67.5°	1112.1	794.0	585.7	449.7	366.1	319.7	291.0	276.9	271.3	270.0
70°	1009.1	727.4	521.9	400.0	329.8	285.0	263.6	253.1	246.2	243.8
72.5°	904.6	638.6	460.2	352.4	285.8	256.3	234.9	223.6	220.0	218.0
75°	768.1	536.9	387.9	298.7	245.4	214.3	199.4	190.9	186.5	186.1
77.5°	628.5	429.9	312.4	236.5	194.2	172.8	162.3	154.2	153.4	155.0
80°	481.6	324.5	232.1	177.2	143.7	130.4	124.7	119.5	118.7	117.5
82.5°	320.1	215.1	146.9	112.2	96.5	88.8	87.2	83.6	82.7	81.9
85°	156.2	103.3	71.0	55.7	51.3	47.6	47.2	48.8	48.4	47.2
87.5°	16.1	13.3	12.9	10.1	9.3	8.5	8.5	7.7	9.3	6.9
90°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	30.1
92.5°	33.8	33.8	33.8	33.8	33.8	33.8	33.8	34.2	34.2	34.8
95°	38.5	38.5	38.5	38.5	38.5	38.5	38.5	39.4	39.4	39.4
97.5°	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.6	44.6	44.6
100°	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8
102.5°	55.9	55.9	56.4	55.9	55.9	55.9	55.9	55.9	55.9	55.9
105°	62.0	62.0	62.9	62.0	62.0	62.0	62.0	62.0	62.0	62.0
107.5°	69.0	69.0	69.5	69.0	69.0	69.0	69.0	69.0	68.6	68.6
110°	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	75.1	75.1



REPORT NUMBER: P821177  
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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	84.0	84.0	84.6	84.6	84.0	84.0	84.0	84.0	83.1	83.1
115°	92.0	92.0	93.0	93.0	92.0	92.0	92.0	92.0	91.1	91.1
117.5°	101.4	101.4	102.4	102.4	101.4	101.4	101.4	101.0	100.5	100.5
120°	110.8	110.8	111.8	111.8	110.8	110.8	110.8	109.9	109.9	109.9
122.5°	122.1	122.1	122.6	122.6	121.6	121.6	121.6	121.2	120.7	120.7
125°	133.4	133.4	133.4	133.4	132.4	132.4	132.4	132.4	131.5	131.5
127.5°	145.1	145.1	145.1	145.1	144.2	144.2	144.2	144.2	143.2	143.2
130°	156.8	156.8	156.8	156.8	155.9	155.9	155.9	155.9	155.0	155.0
132.5°	168.6	168.6	168.6	168.6	168.1	167.6	167.6	167.6	167.2	167.2
135°	180.3	180.3	180.3	180.3	180.3	179.4	179.4	179.4	179.4	179.4
137.5°	191.6	191.6	191.6	191.6	191.6	191.2	190.6	191.2	190.6	191.2
140°	202.9	202.9	202.9	202.9	202.9	202.9	201.9	202.9	201.9	202.9
142.5°	213.7	213.7	213.7	213.7	213.7	213.7	212.7	213.7	213.2	213.7
145°	224.5	224.5	224.5	224.5	224.5	224.5	223.5	224.5	224.5	224.5
147.5°	235.8	235.8	235.8	235.8	235.8	235.8	234.8	235.8	235.3	235.8
150°	247.0	247.0	247.0	247.0	247.0	247.0	246.1	247.0	246.1	247.0
152.5°	256.0	256.0	256.0	256.4	256.0	256.0	255.5	256.4	255.5	256.0
155°	264.9	264.9	264.9	265.8	264.9	264.9	264.9	265.8	264.9	264.9
157.5°	272.4	272.4	272.4	273.3	272.4	272.4	272.4	273.3	272.4	272.4
160°	279.9	279.9	279.9	280.8	279.9	279.9	279.9	280.8	279.9	279.9
162.5°	286.0	286.0	286.0	286.9	286.0	286.0	286.0	286.9	286.0	286.0
165°	292.1	292.1	292.1	293.0	292.1	292.1	292.1	293.0	292.1	292.1
167.5°	295.8	295.8	295.8	296.8	295.8	295.8	295.8	296.8	295.8	295.8
170°	299.6	299.6	299.6	300.5	299.6	299.6	299.6	300.5	299.6	299.6
172.5°	302.0	302.0	302.0	302.8	302.0	302.4	302.0	302.8	302.0	302.0
175°	304.3	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3
177.5°	305.2	305.2	305.2	305.7	305.2	305.7	305.2	305.7	305.2	305.2
180°	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2

(END OF REPORT)