

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: P821172

Luminaire Tested: **TT-D4-830-24VDC-WQ-UPL**

Issue Date: 7/23/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P821172  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-2) AND  
Test Lab: INNOVATION CENTER  
Issue Date: 7/23/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TT-D4-830-24VDC-WQ-UPL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
3000K, 80 CRI LEDS AND WIDE DISTRIBUTION  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

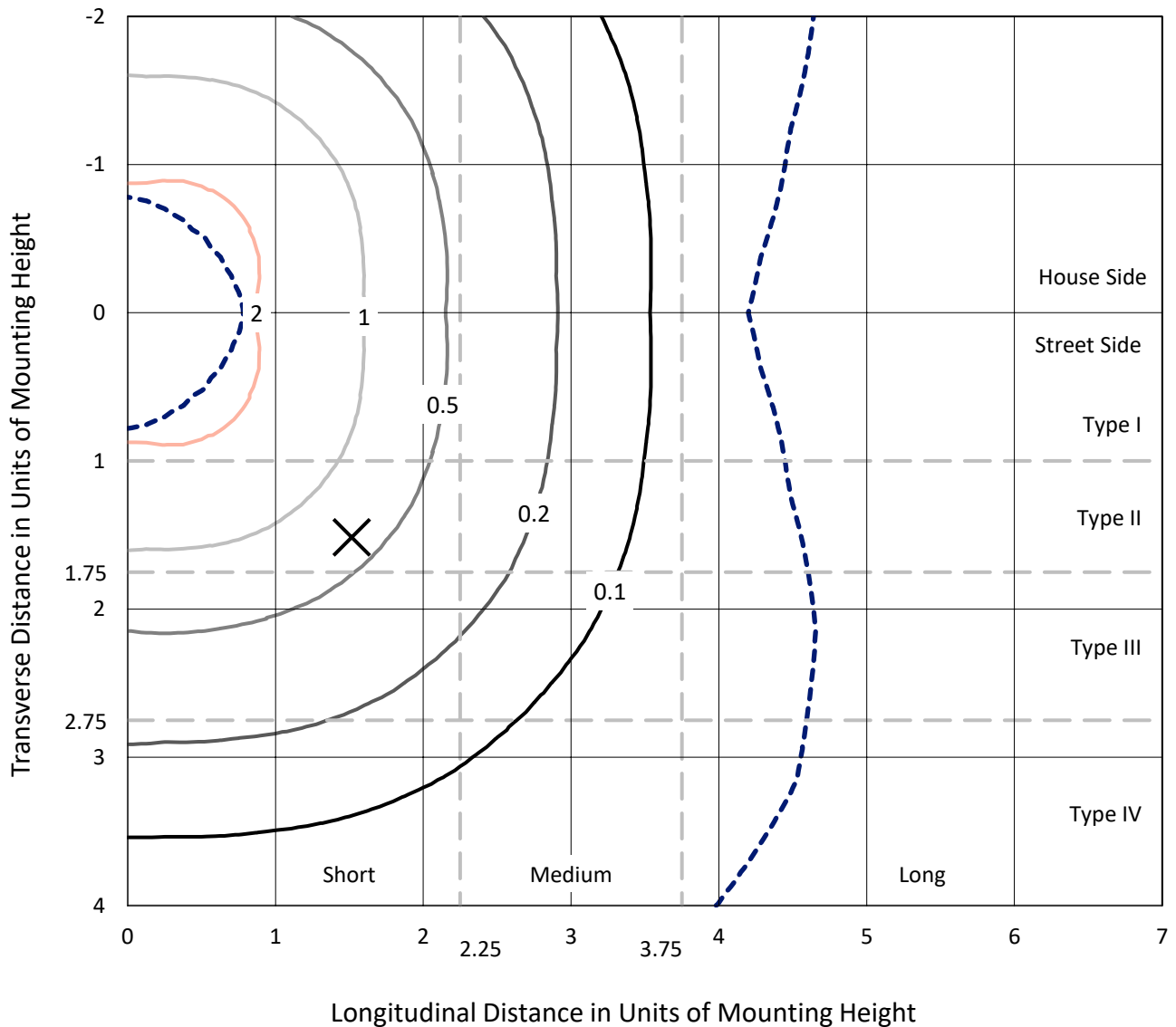
Lumens per Lamp: N/A  
Luminaire Lumens: 7575.7 lumens  
Efficiency: N/A  
Efficacy: 132.9 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')  
IES Classification: Type V - Short  
BUG Rating: B3 - U4 - G2

Input Watts (W): 57  
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

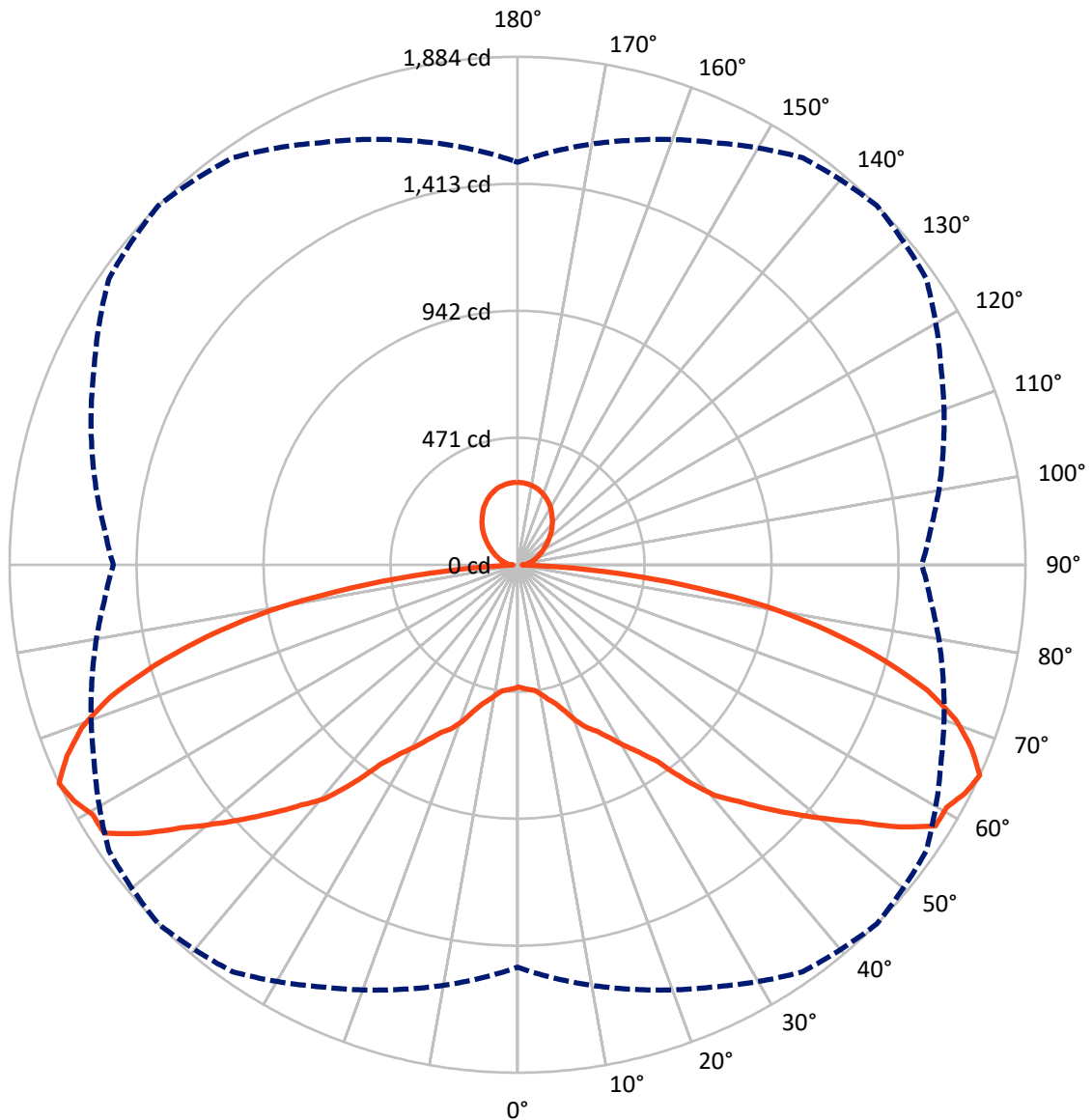
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 2.3 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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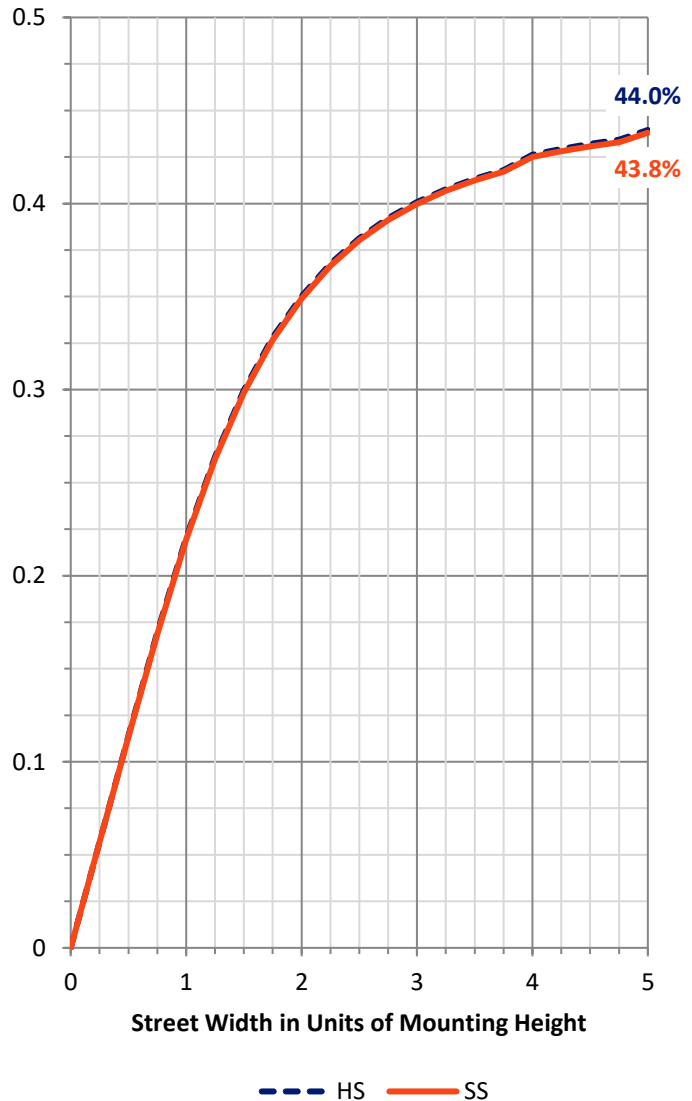
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3372.0	415.9	3787.9
	% Fixture	44.5	5.5	50.0
<b>Street Side</b>	Lumens	3372.0	415.9	3787.9
	% Fixture	44.5	5.5	50.0
<b>Total</b>	Lumens	6744.0	831.7	7575.7
	% Fixture	89.0	11.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.2	0.6
10°-20°	155.6	2.1
20°-30°	319.5	4.2
30°-40°	567.6	7.5
40°-50°	956.7	12.6
50°-60°	1411.3	18.6
60°-70°	1656.3	21.9
70°-80°	1290.4	17.0
80°-90°	341.4	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	1.8
140°-150°	140.5	1.9
150°-160°	121.9	1.6
160°-170°	82.2	1.1
170°-180°	28.9	0.4
0°-90°	6744.0	89.0
0°-180°	7575.7	100.0

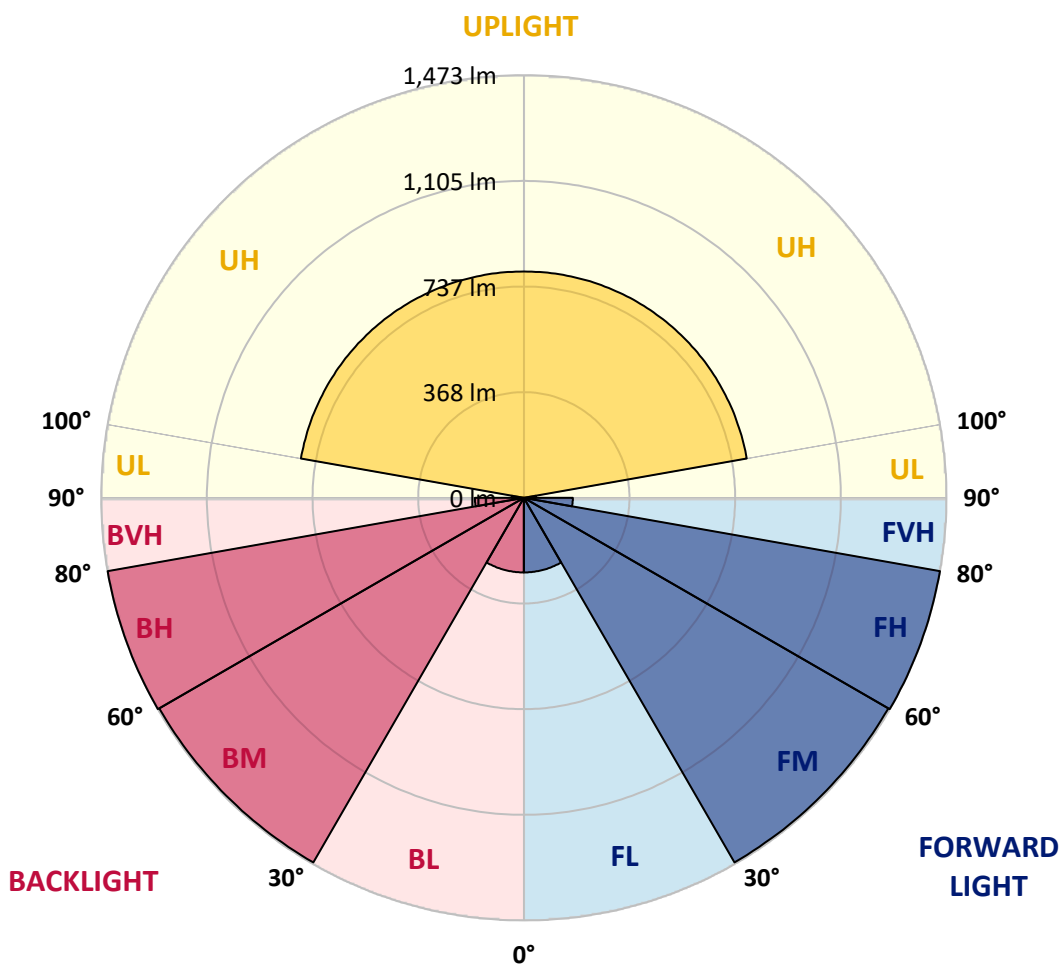


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	260.1	3.4			
FM (30°-60°)	1467.8	19.4			
FH (60°-80°)	1473.4	19.4			G1/1800
FVH (80°-90°)	170.7	2.3			G2/225
BL (0°-30°)	260.1	3.4	B1/500		
BM (30°-60°)	1467.8	19.4	B2/2500		
BH (60°-80°)	1473.4	19.4	B3/2500		G1/1800
BVH (80°-90°)	170.7	2.3			G2/225
UL (90°-100°)	42.6	0.6		U2/50	
UH (100°-180°)	789.1	10.4		U4/1000	

**BUG Rating: B3-U4-G2**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	453.6	453.6	453.6	453.6	453.6	453.6	453.6	453.6	453.6	453.6	453.6
2.5°	461.0	461.0	461.0	460.0	460.0	460.0	460.0	461.0	461.0	461.0	461.0
5°	471.6	471.6	469.5	467.4	465.3	465.3	466.3	467.4	468.5	470.6	470.6
7.5°	478.0	478.0	476.9	474.8	471.6	471.6	472.7	474.8	475.9	475.9	474.8
10°	486.5	487.5	490.7	491.8	489.7	489.7	490.7	491.8	489.7	486.5	486.5
12.5°	506.6	507.7	511.9	515.1	515.1	513.0	514.0	516.2	510.9	505.6	506.6
15°	535.2	535.2	536.3	539.5	537.4	535.2	537.4	538.4	535.2	534.2	536.3
17.5°	573.4	573.4	567.0	572.3	573.4	572.3	574.4	569.1	566.0	570.2	572.3
20°	614.7	610.5	607.3	611.5	620.0	616.8	621.1	609.4	606.2	608.4	609.4
22.5°	641.2	644.4	646.5	648.6	660.3	656.1	660.3	647.6	645.5	641.2	638.0
25°	673.0	676.2	688.9	682.6	690.0	683.6	688.9	681.5	685.7	673.0	673.0
27.5°	709.1	715.4	722.8	719.6	729.2	726.0	729.2	718.6	719.6	714.4	712.2
30°	757.8	757.8	755.7	762.0	779.0	776.9	777.9	764.2	754.6	755.7	759.9
32.5°	806.6	800.2	803.4	822.5	833.1	828.8	830.9	824.6	803.4	799.1	802.3
35°	852.1	861.7	869.1	885.0	899.8	897.7	896.6	886.0	872.3	855.3	850.0
37.5°	923.1	933.7	953.9	982.5	1009.0	1014.3	1000.5	986.7	954.9	930.6	917.8
40°	1016.4	1017.5	1040.8	1095.9	1120.3	1124.5	1117.1	1093.8	1045.0	1017.5	1016.4
42.5°	1098.0	1090.6	1128.8	1175.4	1197.6	1199.8	1194.5	1175.4	1128.8	1089.5	1097.0
45°	1161.6	1161.6	1207.2	1244.3	1280.3	1288.8	1279.3	1239.0	1208.2	1162.7	1159.5
47.5°	1219.9	1235.8	1274.0	1319.5	1370.4	1382.1	1370.4	1322.7	1270.8	1236.9	1218.8
50°	1289.9	1308.9	1336.5	1407.5	1464.7	1480.6	1463.7	1411.7	1336.5	1307.9	1297.3
52.5°	1371.5	1387.4	1430.8	1519.8	1562.2	1585.6	1571.8	1522.0	1432.9	1389.5	1381.0
55°	1469.0	1454.1	1522.0	1607.8	1686.2	1717.0	1689.4	1609.9	1532.6	1454.1	1469.0
57.5°	1518.8	1501.8	1597.2	1678.8	1788.0	1828.3	1794.4	1685.2	1597.2	1507.1	1517.7
60°	1523.0	1530.4	1602.5	1736.1	1811.3	1828.3	1817.7	1745.6	1605.7	1536.8	1516.7
62.5°	1510.3	1555.9	1617.4	1755.1	1823.0	1864.3	1828.3	1757.3	1623.7	1563.3	1511.4
65°	1493.4	1538.9	1630.1	1727.6	1843.1	1884.4	1850.5	1732.9	1634.3	1538.9	1499.7
67.5°	1463.7	1447.8	1560.1	1690.5	1791.2	1815.6	1794.4	1692.6	1559.1	1445.7	1466.9
70°	1369.3	1355.6	1452.0	1595.1	1691.5	1725.5	1700.0	1597.2	1454.1	1358.7	1371.5
72.5°	1229.4	1233.7	1327.0	1463.7	1567.5	1588.7	1575.0	1462.6	1332.3	1239.0	1222.0
75°	1066.2	1076.8	1165.9	1289.9	1384.2	1396.9	1383.1	1295.2	1164.8	1083.2	1060.9
77.5°	876.5	892.4	964.5	1088.5	1151.0	1179.6	1157.4	1091.7	969.8	896.6	874.4
80°	679.4	684.7	735.5	835.2	917.8	936.9	915.7	838.4	741.9	686.8	670.9
82.5°	445.1	453.6	499.2	575.5	629.6	624.3	629.6	569.1	504.5	451.5	425.0
85°	198.2	215.2	245.9	281.9	316.9	326.4	316.9	286.2	245.9	210.9	206.7
87.5°	13.8	15.9	19.1	20.1	22.3	17.0	17.0	17.0	14.8	17.0	13.8
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	167.6	168.6	168.6	168.6	168.6	168.1
135°	179.4	179.4	179.4	179.4	179.4	179.4	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	302.4	302.0	302.8	302.0	302.0	302.0	302.0
175°	304.3	304.3	305.2	304.3	305.2	304.3	305.2	304.3	304.3	304.3	304.3
177.5°	305.2	305.2	305.7	305.2	305.7	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

(END OF REPORT)