

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: P821204

Luminaire Tested: **TT-D2-735-24VDC-CQ-UPL**

Issue Date: 7/23/2020



Test Information

Test Method: LM-79-08
Report Number: P821204
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-D2-735-24VDC-CQ-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
3500K, 70 CRI LEDS AND CONCENTRATED DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

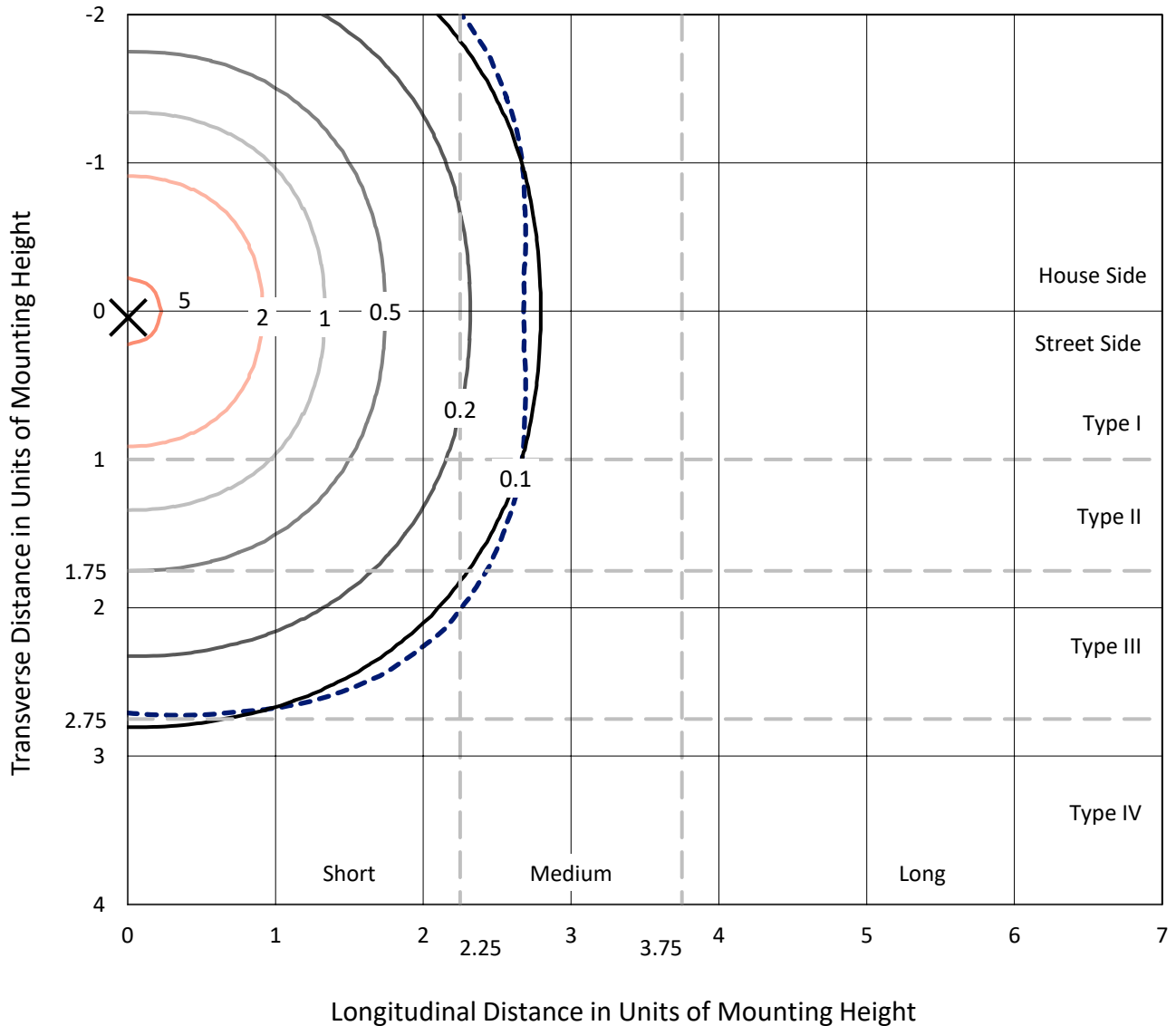
Lumens per Lamp: N/A
Luminaire Lumens: 5760.7 lumens
Efficiency: N/A
Efficacy: 151.6 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short
BUG Rating: B2 - U4 - G1

Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): 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

REPORT NUMBER: P821204
 CATALOG NUMBER: TT-D2-735-24VDC-CQ-UPL

Iso-Footcandle Lines of Horizontal Illumination

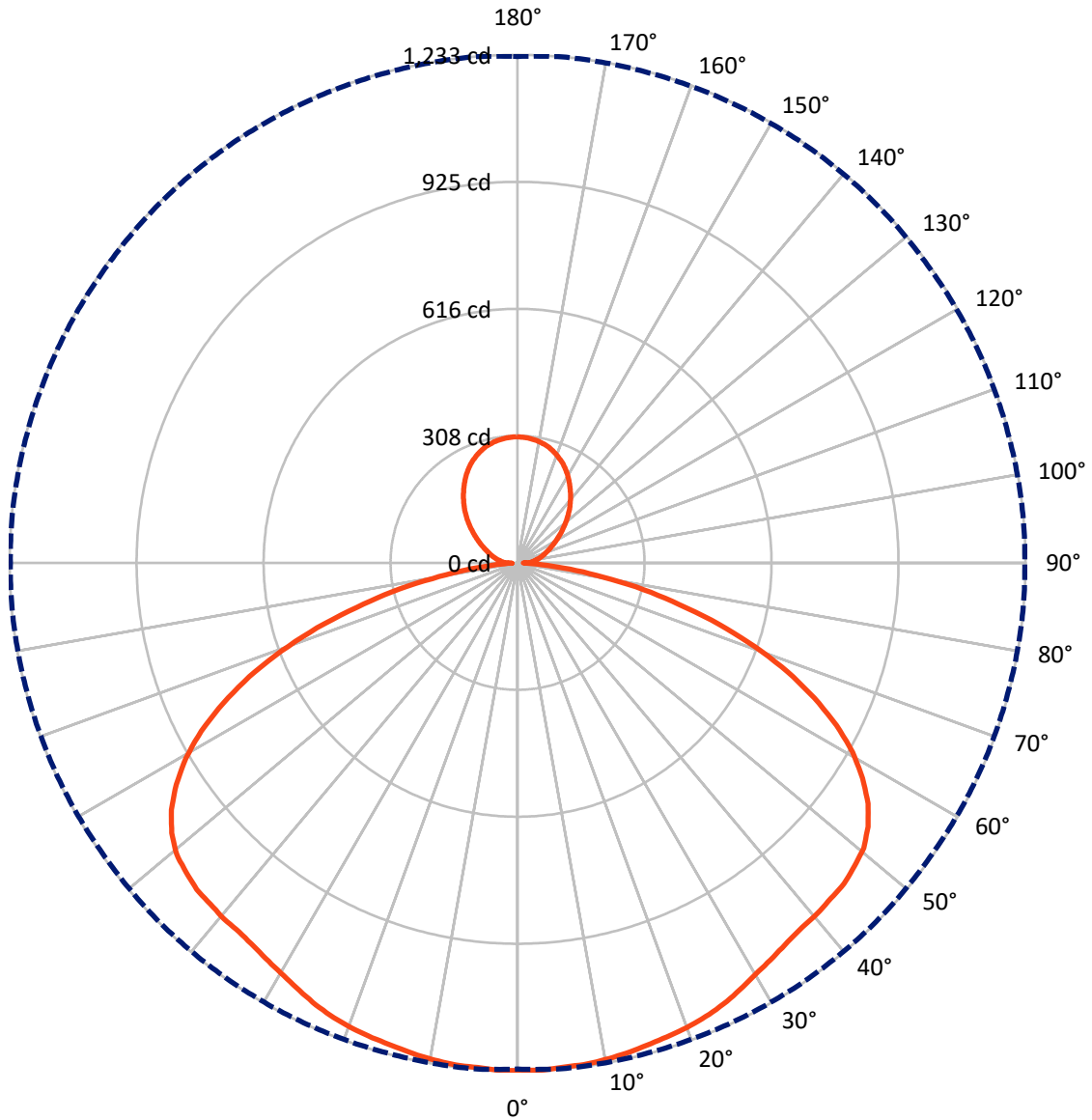
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 5.5 fc
 Type V - Short - N/A

REPORT NUMBER: P821204
CATALOG NUMBER: TT-D2-735-24VDC-CQ-UPL

Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 2.5-Deg Vertical

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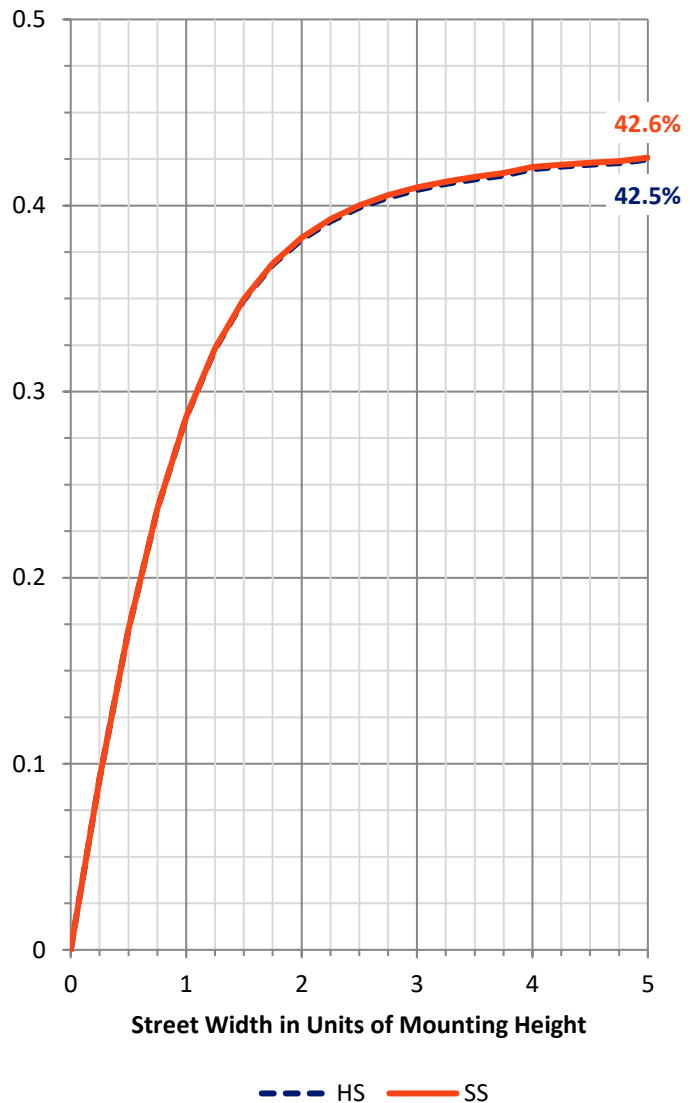
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2464.5	415.9	2880.4
	% Fixture	42.8	7.2	50.0
Street Side	Lumens	2464.5	415.9	2880.4
	% Fixture	42.8	7.2	50.0
Total	Lumens	4929.0	831.7	5760.7
	% Fixture	85.6	14.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.2	2.0
10°-20°	343.2	6.0
20°-30°	545.8	9.5
30°-40°	717.9	12.5
40°-50°	878.7	15.3
50°-60°	951.8	16.5
60°-70°	818.8	14.2
70°-80°	460.3	8.0
80°-90°	95.3	1.7
90°-100°	42.6	0.7
100°-110°	66.0	1.1
110°-120°	91.9	1.6
120°-130°	119.0	2.1
130°-140°	138.7	2.4
140°-150°	140.5	2.4
150°-160°	121.9	2.1
160°-170°	82.2	1.4
170°-180°	28.9	0.5
0°-90°	4929.0	85.6
0°-180°	5760.7	100.0

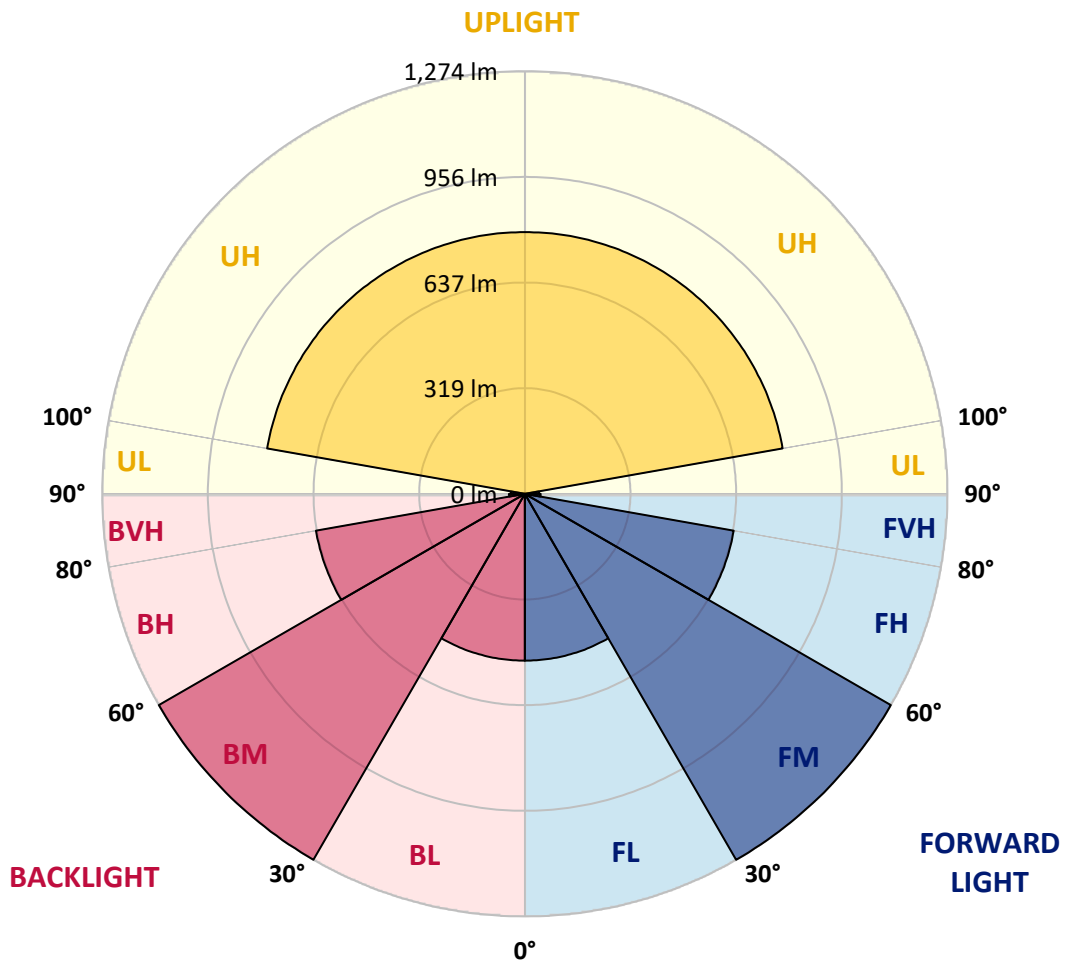


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 CATALOG NUMBER: TT-D2-735-24VDC-CQ-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	503.1	8.7			
FM (30°-60°)	1274.2	22.1			
FH (60°-80°)	639.6	11.1			G0/660
FVH (80°-90°)	47.6	0.8			G1/100
BL (0°-30°)	503.1	8.7	B2/1000		
BM (30°-60°)	1274.2	22.1	B2/2500		
BH (60°-80°)	639.6	11.1	B2/1000		G0/660
BVH (80°-90°)	47.6	0.8			G1/100
UL (90°-100°)	42.6	0.7		U2/50	
UH (100°-180°)	789.1	13.7		U4/1000	

BUG Rating: B2-U4-G1
 Type V Short





REPORT NUMBER: P821204

CATALOG NUMBER: TT-D2-735-24VDC-CQ-UPL

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1
2.5°	1229.0	1232.9	1231.3	1231.3	1231.3	1231.3	1229.7	1231.3	1231.3	1232.1	1231.3
5°	1229.7	1229.0	1229.0	1229.7	1229.7	1230.5	1229.0	1229.7	1230.5	1230.5	1231.3
7.5°	1227.4	1228.2	1226.6	1228.2	1226.6	1227.4	1227.4	1228.2	1227.4	1228.2	1229.7
10°	1222.7	1223.5	1222.7	1222.7	1222.7	1224.3	1221.1	1223.5	1222.7	1223.5	1222.7
12.5°	1214.1	1218.0	1216.4	1218.0	1218.0	1218.0	1215.6	1217.2	1218.0	1218.0	1218.0
15°	1210.1	1210.9	1208.6	1211.7	1212.5	1213.3	1210.1	1211.7	1211.7	1212.5	1213.3
17.5°	1201.5	1205.4	1204.7	1207.0	1206.2	1208.6	1207.8	1207.0	1206.2	1207.8	1206.2
20°	1195.3	1199.2	1198.4	1200.7	1201.5	1203.9	1201.5	1201.5	1199.2	1200.0	1202.3
22.5°	1189.0	1190.6	1190.6	1192.9	1192.9	1195.3	1192.9	1192.1	1192.1	1191.3	1193.7
25°	1178.8	1179.6	1178.8	1181.1	1182.7	1184.3	1183.5	1181.9	1181.1	1181.1	1180.4
27.5°	1162.3	1165.5	1167.0	1170.2	1171.0	1173.3	1170.2	1170.2	1168.6	1167.0	1167.8
30°	1149.8	1151.4	1151.4	1158.4	1158.4	1162.3	1158.4	1157.6	1156.8	1156.1	1154.5
32.5°	1138.0	1140.4	1142.7	1148.2	1152.1	1153.7	1151.4	1149.8	1145.9	1143.5	1142.7
35°	1128.6	1129.4	1134.1	1142.0	1146.7	1150.6	1147.4	1143.5	1138.0	1134.1	1137.3
37.5°	1121.6	1122.4	1129.4	1139.6	1148.2	1151.4	1146.7	1140.4	1131.8	1127.1	1125.5
40°	1115.3	1120.0	1127.8	1142.0	1151.4	1156.1	1152.1	1143.5	1131.0	1121.6	1120.8
42.5°	1112.2	1114.5	1126.3	1142.7	1156.1	1162.3	1156.8	1145.1	1129.4	1118.4	1117.7
45°	1104.3	1111.4	1122.4	1143.5	1158.4	1166.3	1158.4	1143.5	1124.7	1112.2	1109.8
47.5°	1098.1	1100.4	1117.7	1142.0	1160.0	1166.3	1158.4	1139.6	1116.1	1099.6	1098.1
50°	1083.2	1088.7	1105.9	1131.8	1152.9	1159.2	1149.8	1124.7	1098.1	1080.0	1076.9
52.5°	1060.4	1065.1	1085.5	1117.7	1138.0	1145.1	1131.0	1104.3	1073.0	1051.0	1051.0
55°	1025.2	1032.2	1053.4	1086.3	1112.2	1118.4	1102.0	1073.8	1038.5	1016.6	1015.8
57.5°	982.9	987.6	1010.3	1046.3	1071.4	1080.8	1064.4	1033.0	997.7	971.9	969.5
60°	928.0	934.3	958.6	993.0	1018.9	1026.7	1012.6	981.3	945.2	917.8	917.8
62.5°	862.2	869.2	893.5	928.8	955.4	967.2	947.6	917.8	880.2	853.5	851.2
65°	785.3	791.6	813.6	850.4	877.8	886.4	871.6	840.2	804.2	779.1	776.7
67.5°	699.1	707.7	729.7	761.0	784.6	795.5	786.1	757.9	720.3	694.4	692.1
70°	605.9	612.1	629.4	658.4	685.0	692.9	678.7	659.9	624.7	601.2	598.0
72.5°	506.3	511.8	525.9	553.3	572.2	582.3	574.5	550.2	522.0	502.4	505.5
75°	406.0	405.2	420.9	440.5	457.7	464.8	459.3	443.6	417.8	401.3	400.5
77.5°	305.7	313.5	319.0	335.5	349.6	355.0	347.2	334.7	315.1	301.8	304.1
80°	214.8	210.1	220.2	230.4	239.8	245.3	240.6	233.6	220.2	210.1	208.5
82.5°	131.7	127.8	132.5	141.9	148.1	149.7	150.5	141.9	136.4	128.5	130.1
85°	58.0	58.8	62.7	69.0	69.8	70.5	70.5	69.0	62.7	61.9	60.4
87.5°	14.1	14.1	14.9	17.2	17.2	18.0	18.0	15.7	14.9	13.3	14.1
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	302.4	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)