

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: LUMARK

Report Number: P188104

Luminaire Tested: **QDCAST1B (4PANELS 20°TILT)**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188104
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P22245)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: QDCAST1B (4PANELS 20°TILT)
Description: LUMARK QUADCAST PARKING GARAGE/CANOPY FIXTURE W/4 ROTATING OPTICAL LIGHT PANELS
Light Source: (4) 4000K SMT LED OPTICAL PANELS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5122.3 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.23' x L: 1.23' x H: 0.08')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B3 - U3 - G2

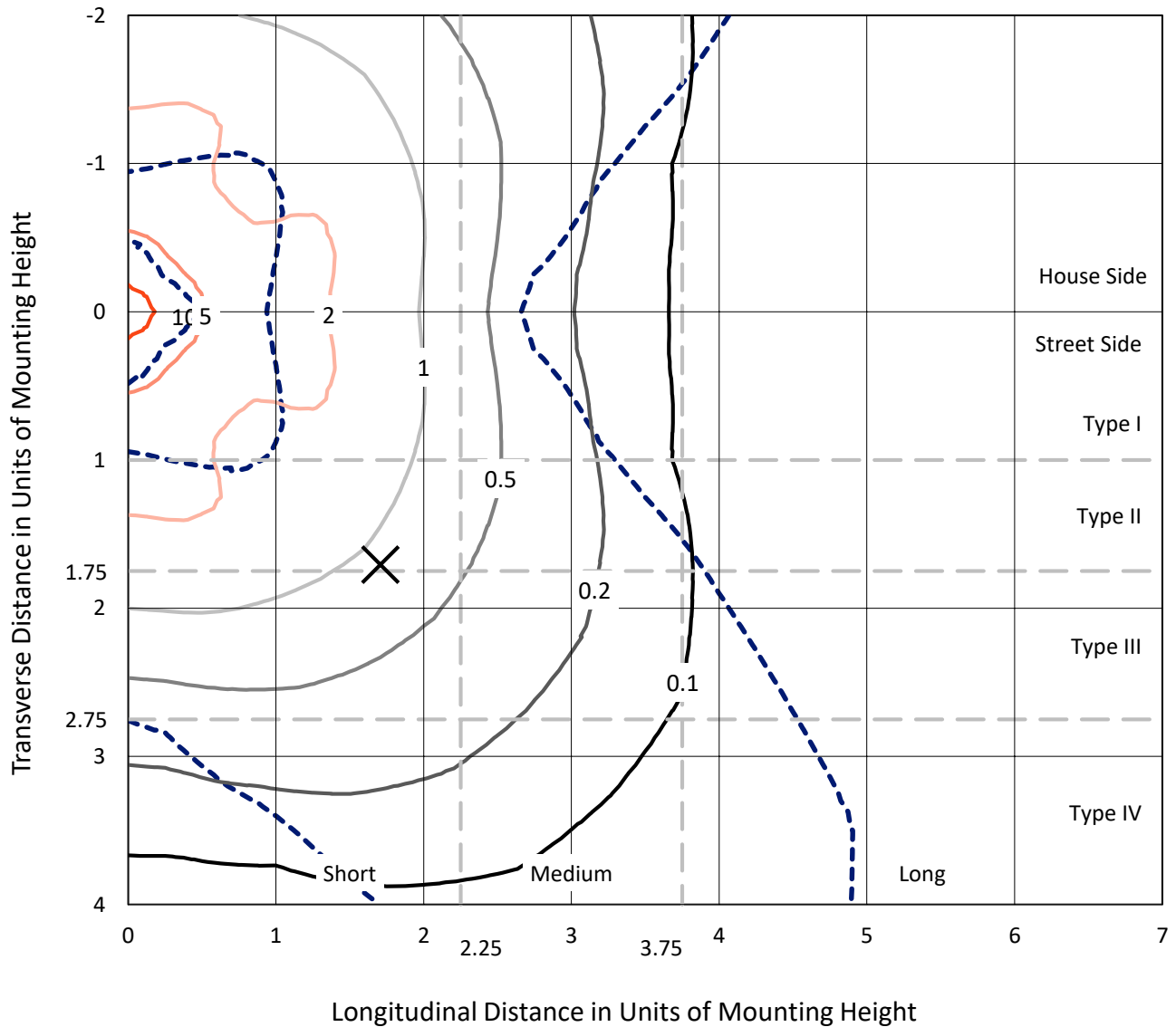
Input Watts (W): 54
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

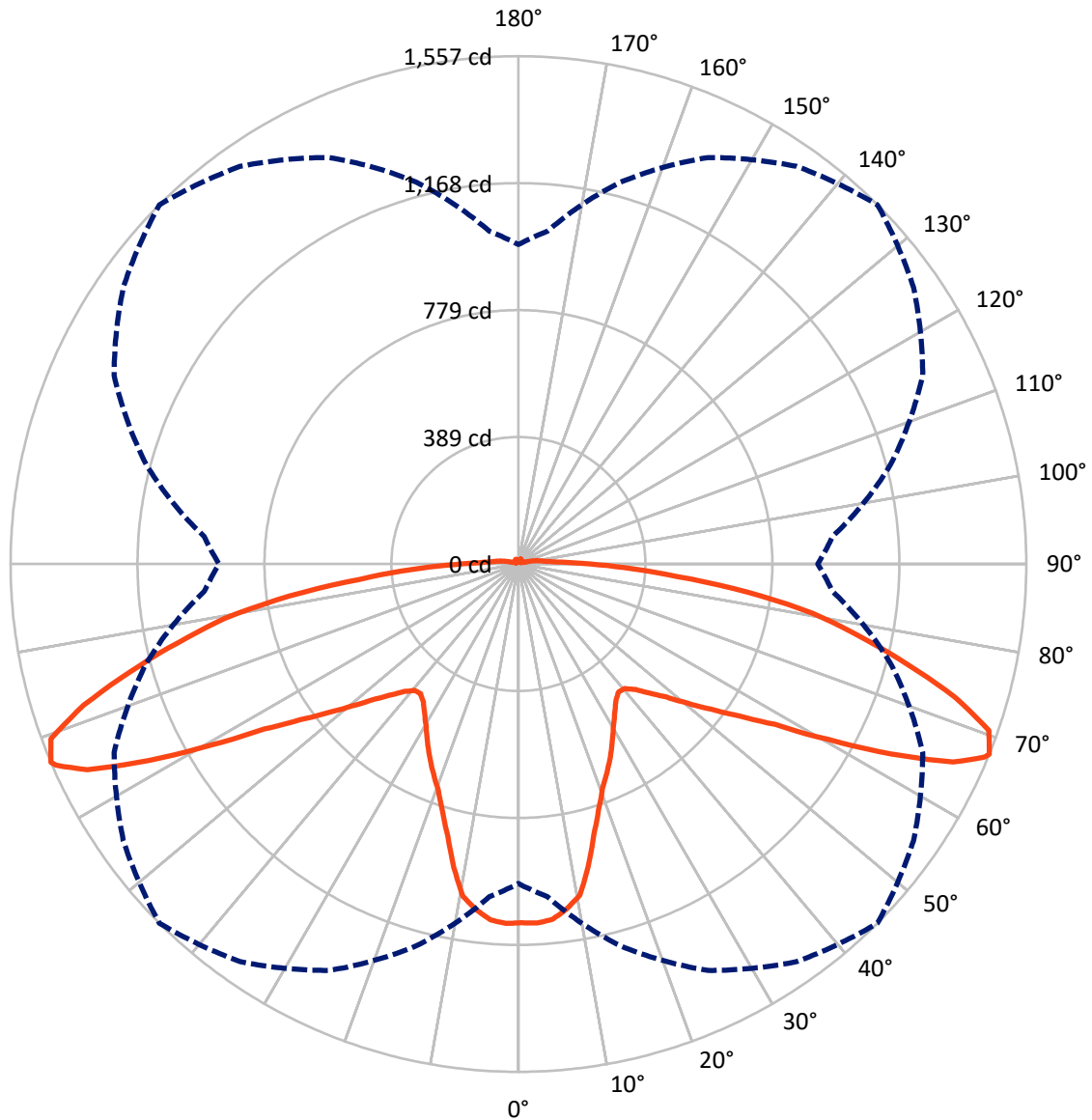
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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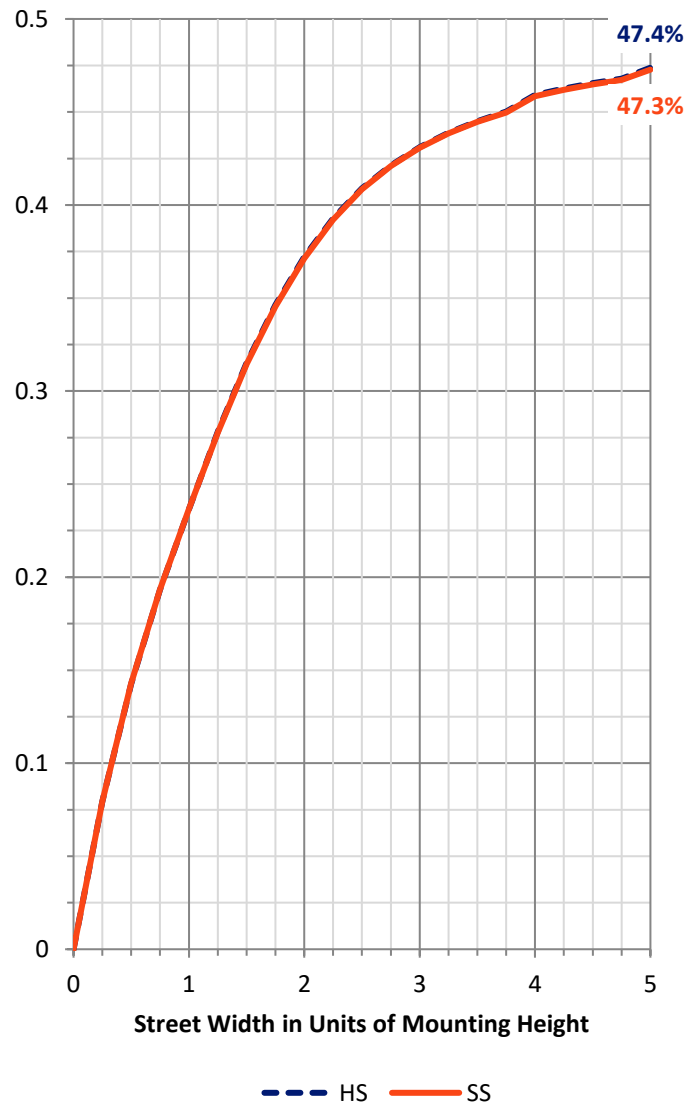
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2488.2	73.0	2561.1
	% Fixture	48.6	1.4	50.0
Street Side	Lumens	2488.2	73.0	2561.1
	% Fixture	48.6	1.4	50.0
Total	Lumens	4976.3	145.9	5122.3
	% Fixture	97.2	2.8	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.4	2.0
10°-20°	259.6	5.1
20°-30°	328.2	6.4
30°-40°	364.8	7.1
40°-50°	539.0	10.5
50°-60°	892.2	17.4
60°-70°	1238.0	24.2
70°-80°	933.7	18.2
80°-90°	317.4	6.2
90°-100°	71.6	1.4
100°-110°	27.2	0.5
110°-120°	10.4	0.2
120°-130°	7.7	0.2
130°-140°	7.7	0.1
140°-150°	9.4	0.2
150°-160°	7.6	0.1
160°-170°	3.5	0.1
170°-180°	0.9	0.0
0°-90°	4976.3	97.2
0°-180°	5122.3	100.0



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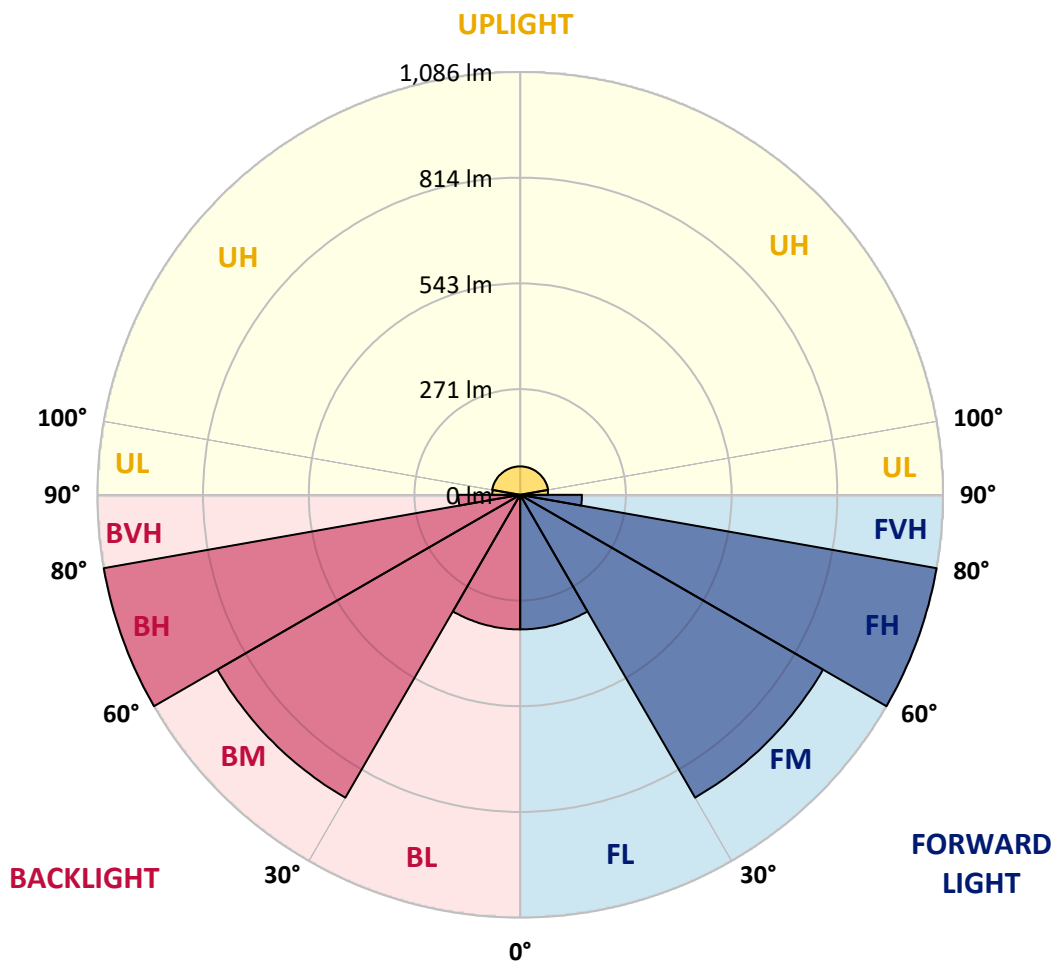
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	345.6	6.7			
FM (30°-60°)	898.0	17.5			
FH (60°-80°)	1085.9	21.2			G1/1800
FVH (80°-90°)	158.7	3.1			G2/225
BL (0°-30°)	345.6	6.7	B1/500		
BM (30°-60°)	898.0	17.5	B1/1000		
BH (60°-80°)	1085.9	21.2	B3/2500		G1/1800
BVH (80°-90°)	158.7	3.1			G2/225
UL (90°-100°)	71.6	1.4		U3/500	
UH (100°-180°)	73.0	1.4		U3/500	

BUG Rating: B3-U3-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0	1100.0
2.5°	1101.2	1101.2	1103.5	1102.4	1100.0	1102.4	1101.2	1103.5	1103.5	1097.7	1098.9
5°	1090.7	1090.7	1093.0	1091.9	1091.9	1094.2	1093.0	1096.5	1100.0	1095.4	1094.2
7.5°	1086.0	1084.8	1088.3	1080.2	1068.5	1067.3	1073.2	1089.5	1097.7	1094.2	1093.0
10°	1083.7	1081.3	1076.7	1053.3	1035.7	1032.2	1034.6	1054.4	1076.7	1077.8	1076.7
12.5°	1052.1	1050.9	1040.4	997.2	963.3	951.6	963.3	991.3	1033.4	1040.4	1038.1
15°	991.3	990.2	973.8	916.5	880.3	862.7	874.4	913.0	970.3	982.0	980.8
17.5°	935.2	929.4	895.5	841.7	810.1	794.9	800.8	834.7	892.0	921.2	923.5
20°	876.8	870.9	830.0	786.7	749.3	735.3	741.2	778.6	826.5	865.1	869.7
22.5°	827.7	821.8	785.6	742.3	702.6	694.4	699.1	735.3	779.7	816.0	819.5
25°	787.9	783.2	750.5	699.1	662.8	654.6	661.7	688.5	738.8	770.4	771.5
27.5°	749.3	748.2	717.8	664.0	625.4	613.7	620.7	647.6	696.7	726.0	722.4
30°	711.9	711.9	680.4	627.8	590.3	574.0	581.0	606.7	652.3	681.5	679.2
32.5°	683.9	680.4	647.6	591.5	556.4	542.4	543.6	563.5	613.7	643.0	643.0
35°	655.8	654.6	623.1	562.3	526.1	514.4	510.9	533.1	589.2	620.7	621.9
37.5°	637.1	635.9	610.2	551.8	509.7	498.0	493.3	526.1	582.2	613.7	617.2
40°	655.8	652.3	611.4	557.6	515.5	501.5	505.0	543.6	596.2	641.8	650.0
42.5°	736.5	721.3	650.0	582.2	541.3	526.1	536.6	582.2	652.3	726.0	743.5
45°	841.7	828.8	729.5	635.9	575.2	564.6	577.5	647.6	748.2	839.3	856.9
47.5°	928.2	923.5	854.5	708.4	617.2	609.1	626.6	733.0	881.4	923.5	921.2
50°	960.9	976.1	967.9	820.6	669.8	669.8	689.7	853.4	996.0	955.1	937.5
52.5°	969.1	989.0	1059.1	960.9	750.5	740.0	777.4	992.5	1059.1	970.3	949.2
55°	983.1	1003.0	1098.9	1076.7	870.9	821.8	903.6	1100.0	1087.2	983.1	959.8
57.5°	1006.5	1025.2	1119.9	1162.0	1020.5	928.2	1061.5	1169.0	1101.2	997.2	977.3
60°	1058.0	1080.2	1152.6	1206.4	1157.3	1093.0	1202.9	1201.7	1115.2	1015.9	991.3
62.5°	1112.9	1132.8	1206.4	1273.1	1296.4	1282.4	1308.1	1248.5	1163.2	1097.7	1079.0
65°	1131.6	1153.8	1277.7	1346.7	1415.7	1464.8	1404.0	1339.7	1257.9	1112.9	1076.7
67°	1019.4	1055.6	1232.1	1378.3	1477.6	1546.6	1471.8	1373.6	1202.9	999.5	950.4
67.5°	979.6	1024.1	1212.3	1374.8	1488.1	1557.1	1478.8	1367.7	1181.9	966.8	917.7
70°	780.9	819.5	1075.5	1319.8	1456.6	1530.2	1434.4	1297.6	1021.7	772.7	730.6
72.5°	624.3	652.3	882.6	1186.5	1345.5	1401.6	1330.3	1152.6	814.8	616.1	598.5
75°	540.1	547.1	667.5	991.3	1212.3	1234.5	1195.9	942.2	619.6	542.4	538.9
77.5°	441.9	448.9	513.2	798.4	1053.3	1070.8	1024.1	747.0	502.7	461.8	455.9
80°	321.5	323.8	358.9	581.0	858.1	915.3	819.5	556.4	371.7	341.4	341.4
82.5°	206.9	209.3	230.3	368.2	634.8	709.6	607.9	360.1	271.2	247.8	245.5
85°	113.4	114.6	140.3	223.3	417.3	488.6	396.3	231.5	163.7	137.9	134.4
87.5°	76.0	76.0	97.0	148.5	257.2	326.2	249.0	153.1	105.2	77.2	74.8
90°	52.6	57.3	77.2	107.5	160.2	192.9	152.0	108.7	76.0	56.1	51.4
92.5°	43.3	43.3	63.1	85.3	104.0	118.1	100.5	85.3	60.8	42.1	42.1
95°	37.4	37.4	51.4	67.8	76.0	84.2	73.6	66.6	50.3	37.4	37.4
97.5°	32.7	32.7	42.1	54.9	58.5	69.0	57.3	52.6	40.9	32.7	32.7
100°	28.1	29.2	35.1	43.3	47.9	56.1	45.6	40.9	33.9	28.1	28.1
102.5°	26.9	26.9	31.6	35.1	35.1	39.7	33.9	33.9	30.4	25.7	25.7
105°	26.9	26.9	28.1	24.5	23.4	24.5	23.4	24.5	28.1	26.9	26.9
107.5°	18.7	18.7	19.9	16.4	16.4	17.5	16.4	16.4	18.7	18.7	18.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	12.9	14.0	14.0	12.9	12.9	15.2	12.9	11.7	12.9	12.9	12.9
112.5°	9.4	10.5	11.7	10.5	11.7	11.7	11.7	10.5	10.5	10.5	9.4
115°	9.4	10.5	10.5	10.5	9.4	11.7	9.4	10.5	10.5	10.5	10.5
117.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
120°	8.2	8.2	9.4	9.4	9.4	8.2	10.5	9.4	9.4	8.2	8.2
122.5°	8.2	8.2	9.4	10.5	8.2	8.2	8.2	10.5	9.4	8.2	8.2
125°	8.2	8.2	8.2	9.4	7.0	8.2	8.2	9.4	9.4	8.2	8.2
127.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
130°	8.2	8.2	8.2	8.2	8.2	7.0	8.2	8.2	8.2	8.2	8.2
132.5°	8.2	9.4	9.4	9.4	8.2	8.2	8.2	9.4	9.4	8.2	8.2
135°	8.2	8.2	10.5	10.5	9.4	9.4	9.4	10.5	10.5	9.4	8.2
137.5°	9.4	9.4	11.7	11.7	10.5	10.5	10.5	11.7	12.9	10.5	9.4
140°	10.5	11.7	12.9	12.9	11.7	11.7	11.7	12.9	12.9	12.9	11.7
142.5°	16.4	15.2	12.9	12.9	11.7	12.9	12.9	12.9	12.9	15.2	17.5
145°	18.7	17.5	14.0	12.9	12.9	14.0	14.0	14.0	15.2	18.7	18.7
147.5°	18.7	18.7	18.7	16.4	15.2	15.2	16.4	17.5	18.7	18.7	18.7
150°	17.5	17.5	17.5	17.5	16.4	16.4	16.4	18.7	18.7	17.5	17.5
152.5°	18.7	18.7	17.5	16.4	16.4	16.4	16.4	16.4	17.5	18.7	18.7
155°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	17.5	17.5
157.5°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	16.4	16.4	16.4
160°	15.2	15.2	14.0	14.0	12.9	14.0	14.0	14.0	15.2	16.4	16.4
162.5°	14.0	14.0	14.0	12.9	12.9	12.9	12.9	12.9	14.0	15.2	15.2
165°	12.9	12.9	12.9	11.7	11.7	11.7	11.7	11.7	12.9	12.9	12.9
167.5°	11.7	11.7	11.7	10.5	10.5	10.5	10.5	10.5	11.7	11.7	11.7
170°	10.5	10.5	10.5	9.4	9.4	9.4	9.4	10.5	10.5	10.5	10.5
172.5°	9.4	9.4	9.4	9.4	8.2	9.4	8.2	9.4	9.4	9.4	9.4
175°	9.4	9.4	8.2	8.2	8.2	8.2	8.2	8.2	9.4	9.4	9.4
177.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
180°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2

(END OF REPORT)