

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: P198359

Luminaire Tested: **TT-C2-LED-E1-WQ-SG-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198359
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TT-C2-LED-E1-WQ-SG-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
WIDE DISTRIBUTION WITH SOFTENING GLASS LENS
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4986.6 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B2 - U4 - G1

Input Watts (W): 51.4
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

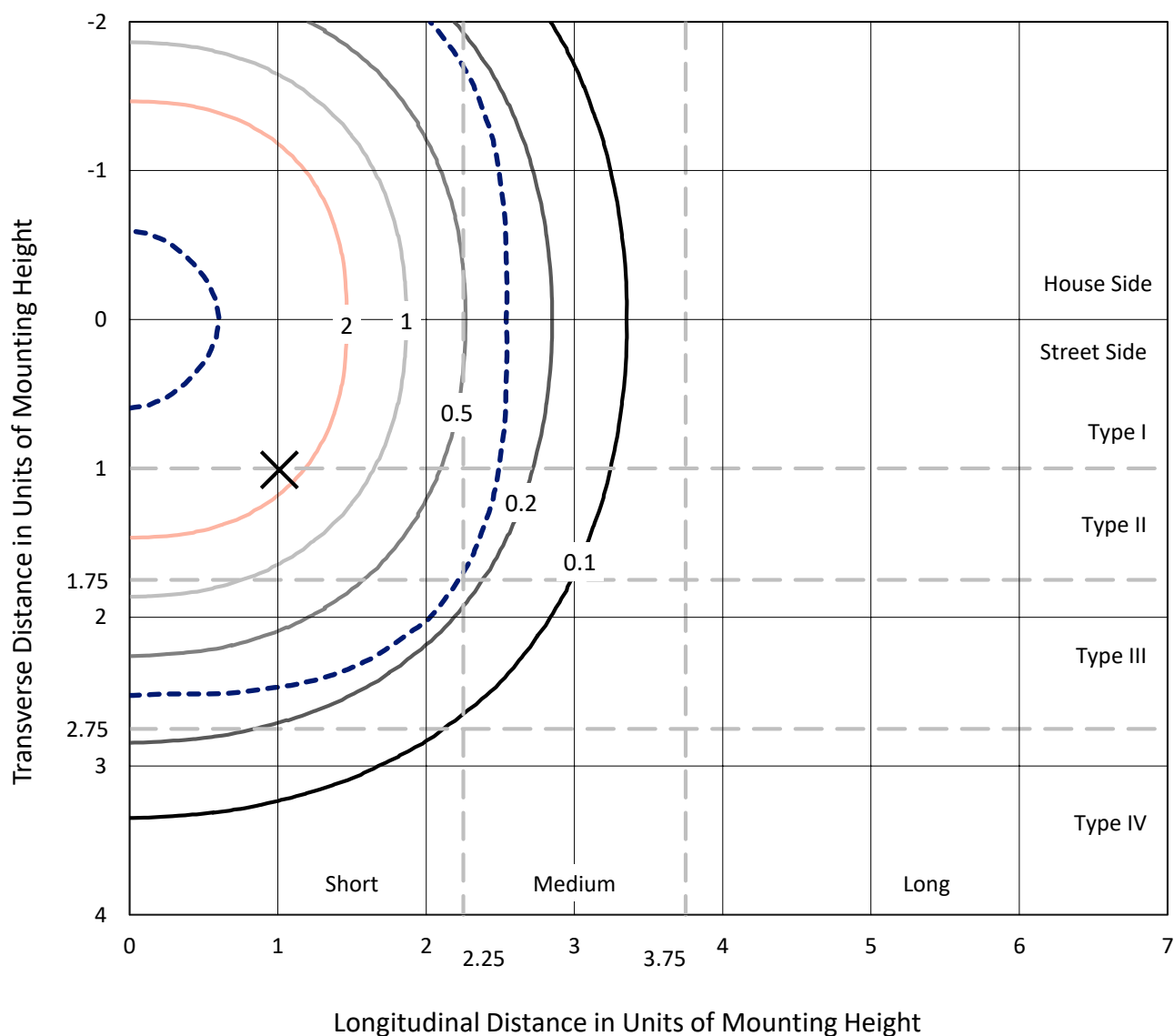


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

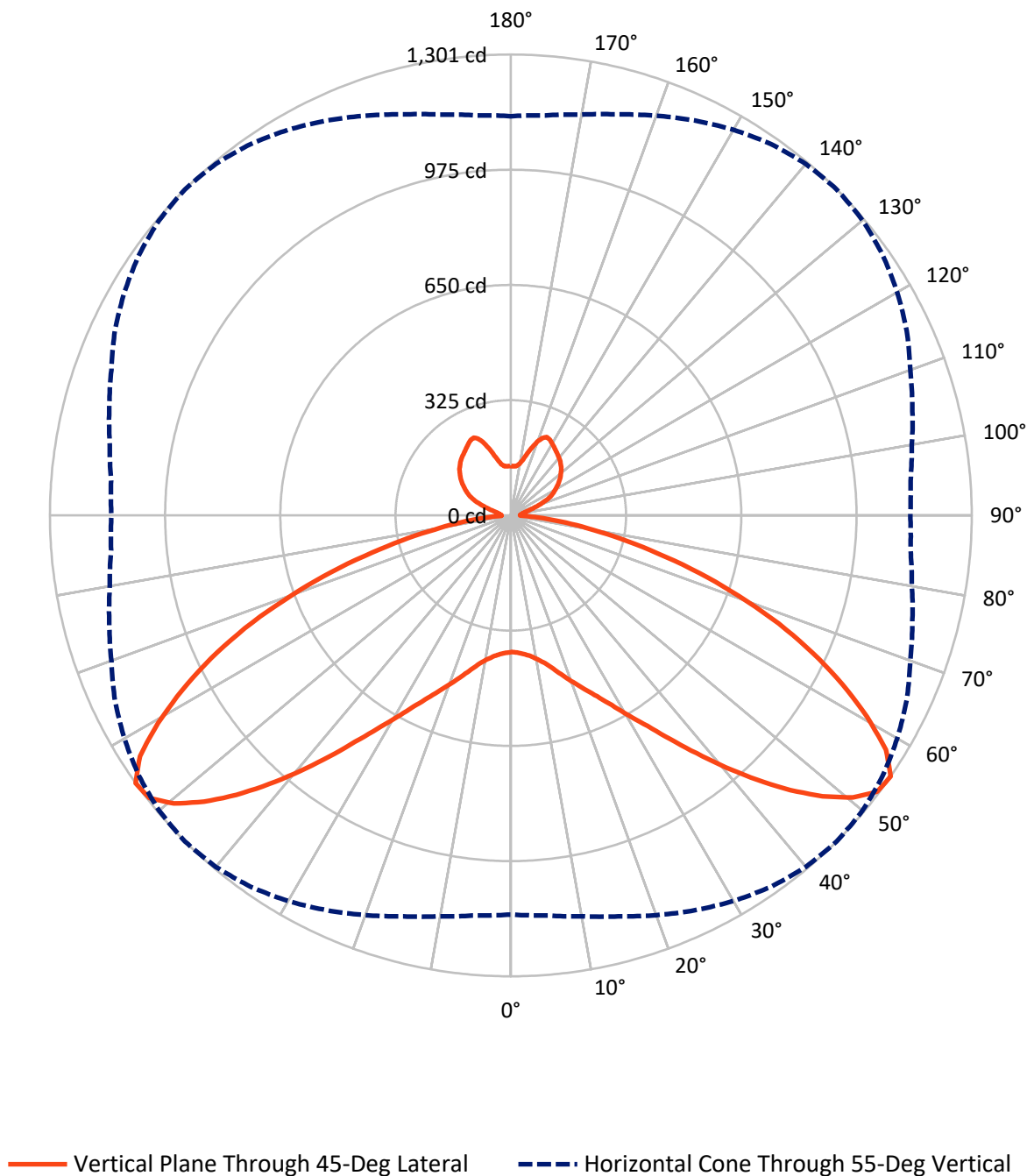


Based on 10 foot mounting height. Maximum calculated value = 4.3 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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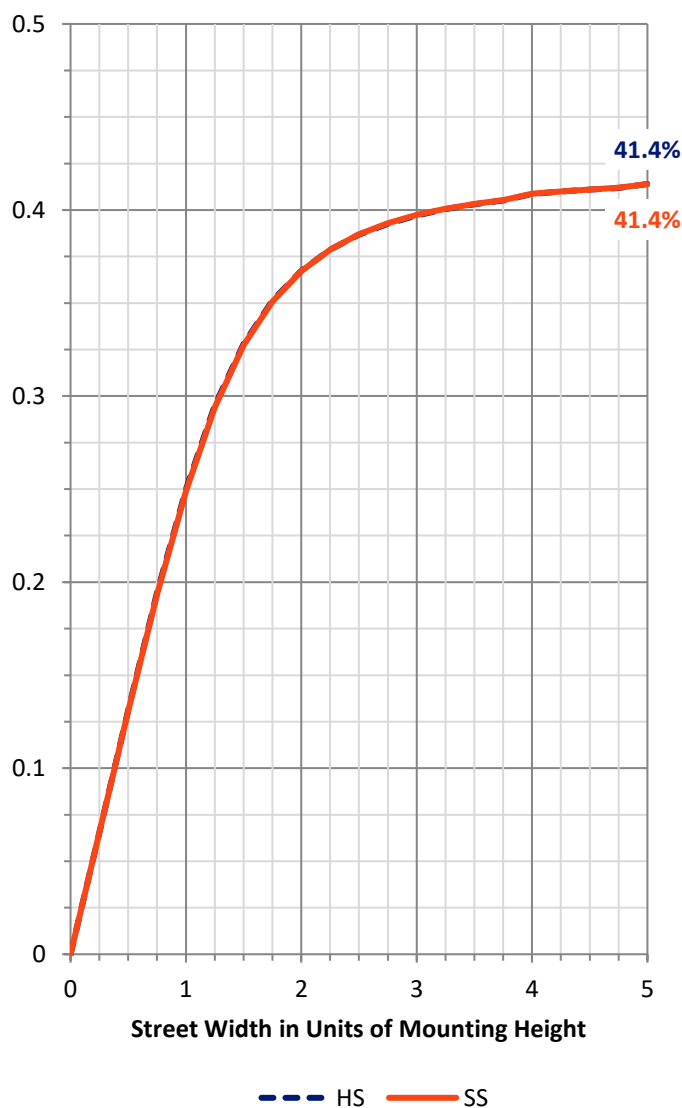
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2081.3	412.0	2493.3
	% Fixture	41.7	8.3	50.0
Street Side	Lumens	2081.3	412.0	2493.3
	% Fixture	41.7	8.3	50.0
Total	Lumens	4162.7	824.0	4986.6
	% Fixture	83.5	16.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.1	0.8
10°-20°	129.1	2.6
20°-30°	262.9	5.3
30°-40°	480.0	9.6
40°-50°	815.1	16.3
50°-60°	1061.5	21.3
60°-70°	858.5	17.2
70°-80°	421.9	8.5
80°-90°	95.7	1.9
90°-100°	38.3	0.8
100°-110°	59.4	1.2
110°-120°	119.3	2.4
120°-130°	148.7	3.0
130°-140°	153.2	3.1
140°-150°	136.0	2.7
150°-160°	103.7	2.1
160°-170°	51.8	1.0
170°-180°	13.6	0.3
0°-90°	4162.7	83.5
0°-180°	4986.6	100.0

Coefficient of Utilization



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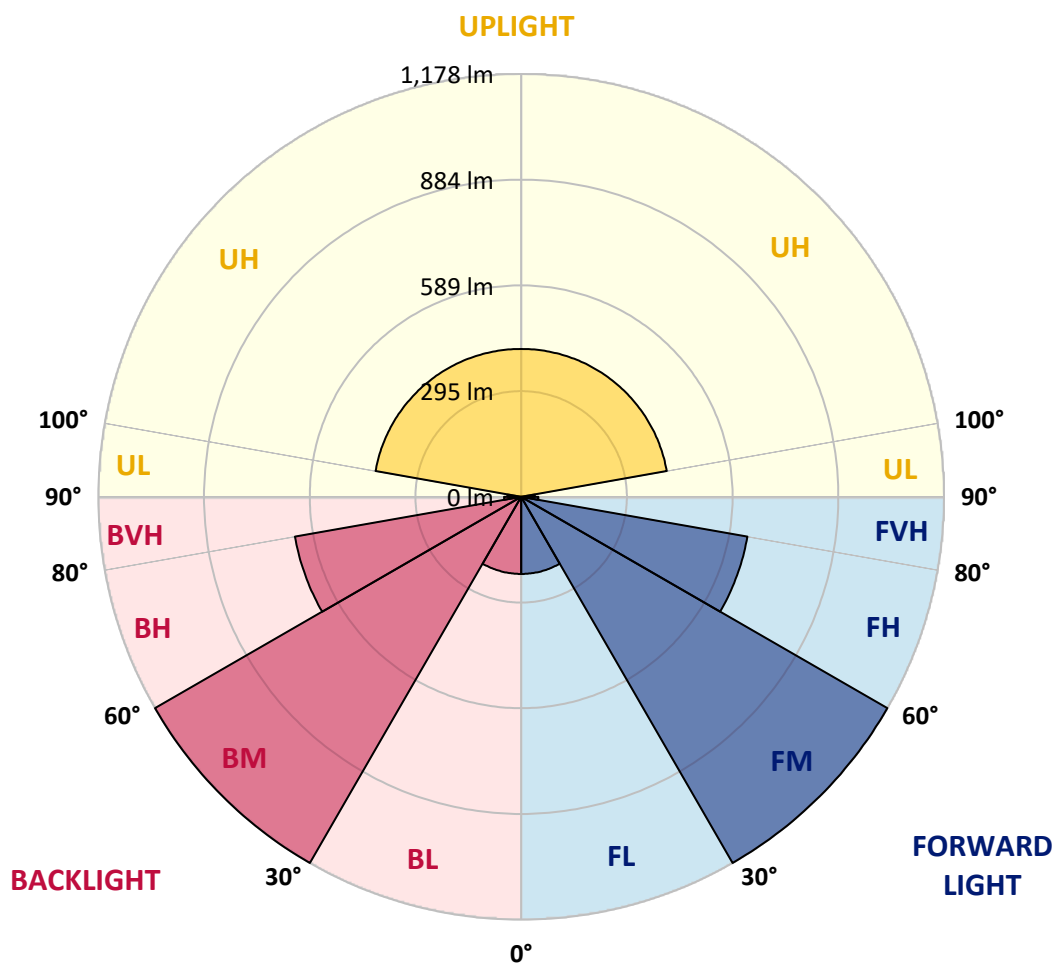
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	215.0	4.3			
FM	(30°-60°)	1178.3	23.6			
FH	(60°-80°)	640.2	12.8			G0/660
FVH	(80°-90°)	47.9	1.0			G1/100
BL	(0°-30°)	215.0	4.3	B1/500		
BM	(30°-60°)	1178.3	23.6	B2/2500		
BH	(60°-80°)	640.2	12.8	B2/1000		G0/660
BVH	(80°-90°)	47.9	1.0			G1/100
UL	(90°-100°)	38.3	0.8		U2/50	
UH	(100°-180°)	412.0	8.3		U3/500	

BUG Rating: B2-U4-G1

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	385.3	385.3	385.3	385.3	385.3	385.3	385.3	385.3	385.3	385.3	385.3
2.5°	387.0	387.0	387.0	387.0	387.0	387.0	387.9	387.9	387.9	387.9	387.9
5°	392.1	392.1	392.1	393.0	393.0	393.0	393.0	393.0	393.0	393.0	393.0
7.5°	399.8	398.9	399.8	399.8	399.8	400.6	400.6	399.8	400.6	400.6	400.6
10°	410.8	410.0	410.8	410.8	410.8	411.7	411.7	411.7	411.7	412.5	412.5
12.5°	427.0	426.1	427.0	427.8	427.0	427.8	427.8	427.8	427.8	427.8	427.8
15°	447.4	446.5	447.4	448.2	447.4	449.1	449.1	448.2	448.2	449.1	449.1
17.5°	472.1	470.4	471.2	472.1	472.1	473.8	473.8	472.9	473.8	474.6	473.8
20°	497.6	495.9	496.7	499.3	499.3	500.1	501.8	501.0	501.8	502.7	501.8
22.5°	525.6	524.8	525.6	528.2	528.2	529.0	531.6	531.6	531.6	532.4	531.6
25°	556.3	555.4	556.3	558.8	558.8	560.5	563.9	563.9	564.8	565.6	564.8
27.5°	592.0	591.1	592.8	595.4	596.2	598.8	603.0	603.9	604.7	605.6	603.9
30°	633.7	632.0	634.5	638.8	640.5	643.9	649.0	650.7	651.5	654.1	652.4
32.5°	681.3	679.6	683.0	688.1	690.7	695.8	702.6	704.3	706.8	708.5	706.0
35°	737.4	736.6	740.0	747.6	751.9	757.8	767.2	769.8	771.5	774.9	771.5
37.5°	799.5	798.7	804.6	813.1	820.8	830.1	840.3	844.6	847.2	851.4	847.2
40°	868.4	867.6	875.2	885.4	894.8	906.7	919.5	925.4	930.5	934.8	929.7
42.5°	939.0	939.0	948.4	959.4	973.0	987.5	1002.0	1008.8	1017.3	1019.8	1013.9
45°	1007.1	1007.9	1017.3	1030.9	1050.4	1069.1	1085.3	1093.8	1103.2	1105.7	1098.1
47.5°	1071.7	1072.6	1081.1	1098.9	1121.0	1142.3	1161.9	1173.8	1183.1	1184.0	1178.0
50°	1124.4	1127.8	1138.9	1155.1	1178.0	1200.1	1224.0	1239.3	1248.6	1251.2	1245.2
52.5°	1144.8	1150.8	1163.6	1184.0	1210.3	1233.3	1259.7	1279.2	1290.3	1294.5	1289.4
55°	1126.1	1132.9	1148.3	1171.2	1200.1	1229.1	1256.3	1279.2	1294.5	1300.5	1295.4
57.5°	1084.5	1085.3	1100.6	1123.6	1150.0	1179.7	1206.1	1227.4	1241.8	1247.8	1246.9
60°	1012.2	1012.2	1026.6	1048.7	1069.1	1099.8	1121.9	1138.0	1148.3	1155.1	1153.4
62.5°	915.2	915.2	928.0	950.9	971.3	997.7	1019.0	1036.0	1042.8	1050.4	1052.1
65°	807.2	807.2	819.1	842.1	860.8	884.6	905.0	921.2	928.0	937.3	935.6
67.5°	692.4	691.5	702.6	722.1	740.0	762.1	781.7	797.0	804.6	815.7	808.0
70°	574.1	574.1	583.5	598.8	611.5	633.7	652.4	667.7	673.6	683.0	678.7
72.5°	461.9	461.0	468.7	480.6	490.8	510.3	521.4	538.4	543.5	556.3	549.5
75°	360.6	358.9	364.9	373.4	380.2	393.0	401.5	415.1	419.3	427.8	424.4
77.5°	271.3	270.5	273.0	279.0	284.1	294.3	297.7	304.5	307.9	316.4	309.6
80°	194.8	192.2	194.8	198.2	199.9	207.5	208.4	210.9	212.6	218.6	211.8
82.5°	131.0	127.6	129.3	131.8	131.8	136.1	136.9	136.1	139.5	141.2	137.8
85°	74.8	72.3	73.1	74.8	74.0	76.6	76.6	75.7	78.3	78.3	76.6
87.5°	24.7	23.0	23.8	24.7	24.7	25.5	26.4	25.5	27.2	27.2	25.5
90°	36.0	36.0	36.0	36.0	35.0	34.0	31.0	29.0	27.0	26.0	26.0
92.5°	40.0	39.0	39.0	38.0	36.0	34.0	32.0	29.0	27.0	27.0	27.0
95°	44.0	43.0	42.0	41.0	38.0	36.0	34.0	32.0	31.0	30.0	30.0
97.5°	42.0	42.0	41.0	40.0	38.0	37.0	36.0	35.0	34.0	33.0	32.0
100°	45.0	45.0	45.0	44.0	42.0	40.0	39.0	38.0	36.0	36.0	35.0
102.5°	51.0	51.0	50.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	42.0
105°	60.0	60.0	59.0	57.0	55.0	54.0	53.0	53.0	51.0	52.0	52.0
107.5°	72.0	72.0	72.0	70.0	68.0	67.0	66.0	66.0	66.0	68.0	68.0
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	101.0	102.0	104.0	108.0	106.0	107.0	107.0	110.0	108.0	107.0	103.0
115°	121.0	122.0	123.0	128.0	126.0	128.0	127.0	129.0	126.0	124.0	120.0
117.5°	140.0	141.0	141.0	144.0	141.0	141.0	140.0	141.0	138.0	136.0	135.0
120°	152.0	153.0	154.0	155.0	151.0	149.0	147.0	149.0	147.0	147.0	148.0
122.5°	161.0	162.0	163.0	164.0	159.0	154.0	153.0	155.0	156.0	158.0	158.0
125°	169.0	169.0	170.0	172.0	168.0	163.0	160.0	165.0	166.0	168.0	167.0
127.5°	177.0	177.0	179.0	181.0	177.0	171.0	170.0	176.0	177.0	178.0	175.0
130°	187.0	188.0	190.0	191.0	185.0	179.0	179.0	186.0	187.0	186.0	183.0
132.5°	198.0	199.0	200.0	201.0	193.0	186.0	187.0	193.0	195.0	195.0	191.0
135°	210.0	210.0	211.0	209.0	199.0	192.0	193.0	199.0	202.0	201.0	197.0
137.5°	221.0	219.0	217.0	213.0	203.0	197.0	198.0	205.0	207.0	208.0	203.0
140°	229.0	226.0	222.0	216.0	205.0	200.0	201.0	207.0	210.0	213.0	212.0
142.5°	235.0	231.0	225.0	218.0	206.0	201.0	202.0	208.0	212.0	218.0	218.0
145°	235.0	230.0	225.0	218.0	207.0	202.0	204.0	211.0	215.0	223.0	225.0
147.5°	230.0	227.0	223.0	219.0	210.0	207.0	209.0	216.0	220.0	229.0	233.0
150°	224.0	221.0	219.0	220.0	215.0	214.0	216.0	222.0	227.0	235.0	239.0
152.5°	216.0	214.0	216.0	221.0	220.0	220.0	224.0	230.0	234.0	241.0	241.0
155°	208.0	207.0	211.0	219.0	222.0	224.0	229.0	237.0	239.0	243.0	239.0
157.5°	203.0	203.0	207.0	216.0	220.0	224.0	229.0	234.0	232.0	235.0	230.0
160°	199.0	198.0	203.0	210.0	212.0	213.0	216.0	219.0	216.0	219.0	216.0
162.5°	185.0	184.0	188.0	193.0	194.0	193.0	196.0	198.0	195.0	198.0	196.0
165°	169.0	167.0	169.0	173.0	173.0	173.0	175.0	176.0	174.0	177.0	175.0
167.5°	154.0	152.0	153.0	156.0	156.0	155.0	157.0	159.0	157.0	159.0	158.0
170°	142.0	141.0	142.0	145.0	144.0	144.0	146.0	147.0	146.0	147.0	147.0
172.5°	137.0	135.0	136.0	139.0	139.0	138.0	140.0	141.0	140.0	141.0	140.0
175°	136.0	134.0	135.0	137.0	137.0	137.0	138.0	139.0	138.0	139.0	138.0
177.5°	137.0	136.0	136.0	139.0	138.0	138.0	139.0	140.0	139.0	139.0	138.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	385.3	385.3	385.3	385.3	385.3	385.3	385.3	385.3
2.5°	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9
5°	393.0	393.0	393.0	393.0	393.0	392.1	392.1	392.1
7.5°	400.6	400.6	400.6	400.6	400.6	399.8	399.8	399.8
10°	412.5	411.7	411.7	411.7	411.7	410.8	411.7	410.8
12.5°	427.8	428.7	428.7	427.8	428.7	427.0	427.0	427.0
15°	449.1	448.2	448.2	448.2	448.2	447.4	447.4	447.4
17.5°	472.9	472.9	472.1	472.1	471.2	470.4	470.4	470.4
20°	501.0	500.1	499.3	498.4	497.6	495.9	495.0	495.0
22.5°	529.9	529.0	528.2	527.3	526.5	524.8	523.1	523.1
25°	562.2	560.5	559.7	558.0	556.3	554.6	553.7	552.9
27.5°	601.3	599.6	597.1	594.5	591.1	590.3	588.6	588.6
30°	648.1	645.6	642.2	637.9	634.5	631.1	629.4	628.6
32.5°	702.6	699.2	693.2	688.1	682.1	678.7	676.2	674.5
35°	766.4	761.2	754.4	746.8	739.1	733.2	728.9	728.9
37.5°	841.2	833.5	823.3	814.0	802.9	796.1	791.0	787.6
40°	922.9	911.8	899.0	887.1	874.4	865.0	857.4	858.2
42.5°	1003.7	994.3	979.0	964.5	948.4	935.6	926.3	925.4
45°	1088.7	1076.8	1058.1	1039.4	1020.7	1005.4	994.3	992.6
47.5°	1167.8	1155.1	1132.9	1110.0	1089.6	1072.6	1060.6	1058.9
50°	1232.5	1217.1	1194.2	1169.5	1147.4	1128.7	1115.9	1112.5
52.5°	1274.1	1257.1	1232.5	1202.7	1178.9	1157.6	1142.3	1138.0
55°	1280.9	1258.8	1232.5	1199.3	1172.9	1149.1	1132.1	1127.0
57.5°	1234.2	1210.3	1186.5	1157.6	1131.2	1105.7	1092.1	1085.3
60°	1143.1	1124.4	1104.9	1078.5	1057.2	1033.4	1022.4	1019.0
62.5°	1038.5	1022.4	1004.5	977.3	959.4	938.2	928.0	923.7
65°	926.3	907.5	890.5	868.4	848.9	831.0	816.5	814.8
67.5°	802.1	782.5	768.1	748.5	728.9	711.9	702.6	697.5
70°	671.1	654.9	640.5	619.2	606.4	590.3	583.5	578.4
72.5°	541.0	531.6	513.7	500.1	485.7	472.9	468.7	463.6
75°	418.5	407.4	393.8	385.3	374.2	367.4	364.0	360.6
77.5°	307.1	297.7	290.0	286.6	281.5	274.7	272.2	269.6
80°	212.6	208.4	203.3	202.4	199.0	193.9	193.1	192.2
82.5°	137.8	135.2	133.5	133.5	131.8	128.4	127.6	127.6
85°	76.6	75.7	76.6	75.7	74.0	72.3	72.3	72.3
87.5°	25.5	25.5	26.4	27.2	24.7	24.7	23.8	23.8
90°	28.0	30.0	32.0	33.0	34.0	34.0	34.0	34.0
92.5°	28.0	30.0	32.0	33.0	35.0	36.0	36.0	36.0
95°	30.0	32.0	34.0	35.0	37.0	38.0	39.0	38.0
97.5°	33.0	34.0	34.0	35.0	36.0	36.0	36.0	36.0
100°	36.0	37.0	38.0	38.0	38.0	38.0	37.0	37.0
102.5°	43.0	44.0	44.0	42.0	42.0	41.0	41.0	41.0
105°	54.0	54.0	53.0	51.0	49.0	48.0	48.0	49.0
107.5°	68.0	68.0	66.0	63.0	60.0	59.0	59.0	60.0
110°	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.0	102.0	105.0	103.0	100.0	98.0	95.0	94.0
115°	121.0	123.0	125.0	124.0	123.0	121.0	116.0	113.0
117.5°	138.0	140.0	141.0	139.0	139.0	139.0	133.0	129.0
120°	150.0	151.0	153.0	148.0	148.0	148.0	145.0	142.0
122.5°	159.0	160.0	162.0	156.0	155.0	156.0	153.0	150.0
125°	167.0	167.0	168.0	164.0	163.0	164.0	160.0	158.0
127.5°	176.0	175.0	175.0	173.0	173.0	173.0	166.0	163.0
130°	183.0	182.0	183.0	181.0	184.0	181.0	171.0	169.0
132.5°	190.0	189.0	192.0	189.0	192.0	190.0	179.0	176.0
135°	196.0	197.0	201.0	199.0	199.0	195.0	185.0	184.0
137.5°	203.0	205.0	210.0	207.0	204.0	198.0	191.0	190.0
140°	212.0	214.0	217.0	214.0	209.0	202.0	195.0	195.0
142.5°	220.0	222.0	223.0	217.0	211.0	204.0	198.0	198.0
145°	230.0	230.0	227.0	217.0	211.0	205.0	201.0	202.0
147.5°	239.0	236.0	229.0	218.0	212.0	207.0	204.0	206.0
150°	242.0	240.0	232.0	220.0	214.0	211.0	210.0	211.0
152.5°	242.0	241.0	235.0	223.0	219.0	217.0	215.0	216.0
155°	238.0	237.0	234.0	227.0	224.0	223.0	220.0	219.0
157.5°	228.0	229.0	229.0	226.0	226.0	225.0	222.0	219.0
160°	215.0	217.0	219.0	219.0	221.0	222.0	218.0	215.0
162.5°	196.0	199.0	200.0	201.0	204.0	208.0	207.0	207.0
165°	176.0	179.0	181.0	181.0	185.0	189.0	190.0	192.0
167.5°	160.0	163.0	165.0	164.0	168.0	171.0	172.0	174.0
170°	148.0	150.0	152.0	152.0	155.0	158.0	159.0	160.0
172.5°	141.0	144.0	145.0	144.0	146.0	149.0	149.0	151.0
175°	138.0	140.0	141.0	140.0	141.0	143.0	143.0	144.0
177.5°	138.0	140.0	140.0	138.0	140.0	141.0	141.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)