

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: P270616

Luminaire Tested: **NAV-AF-05-D-UNV-SLR-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270616
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SLR-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25311.4 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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

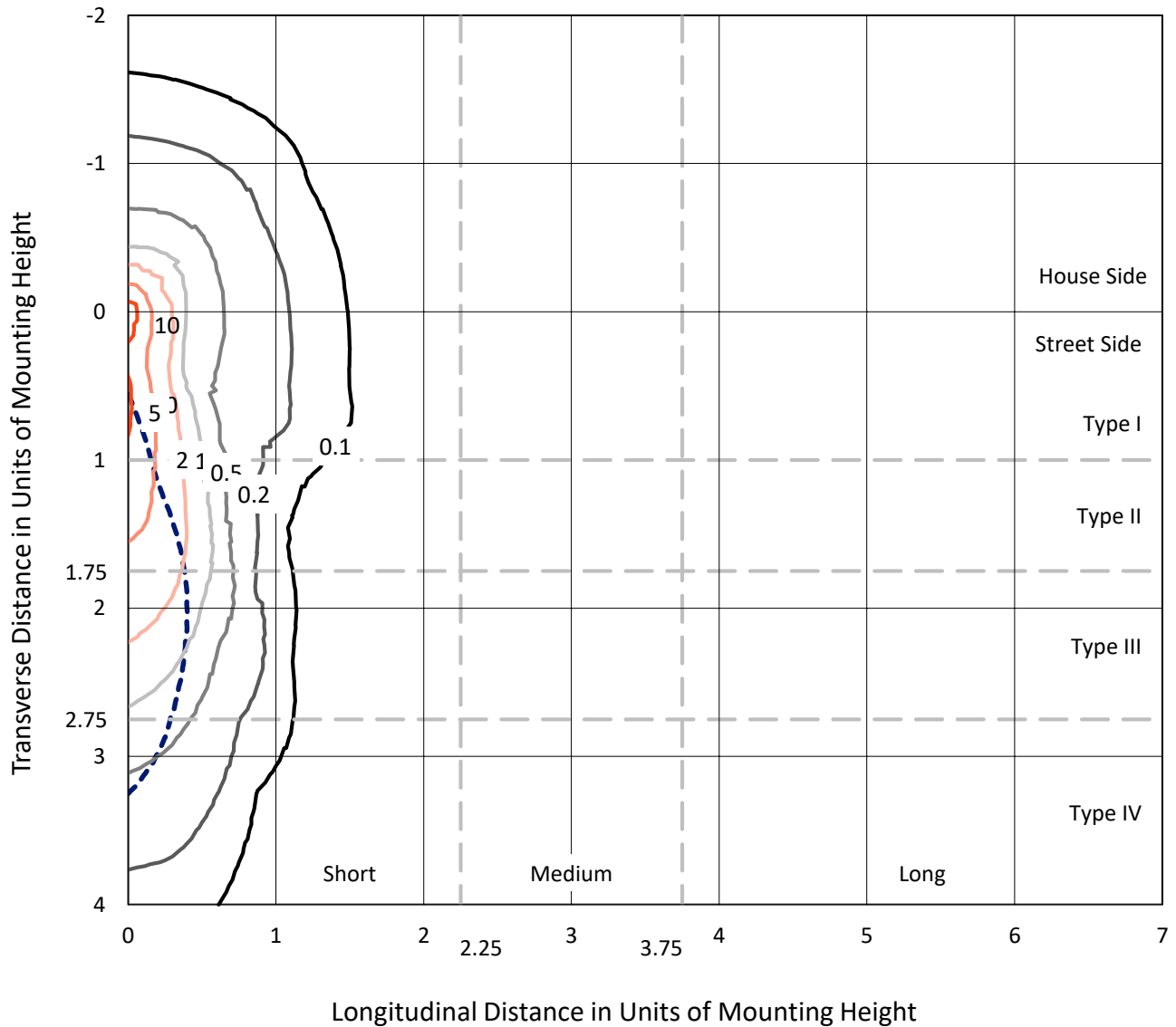


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Iso-Footcandle Lines of Horizontal Illumination

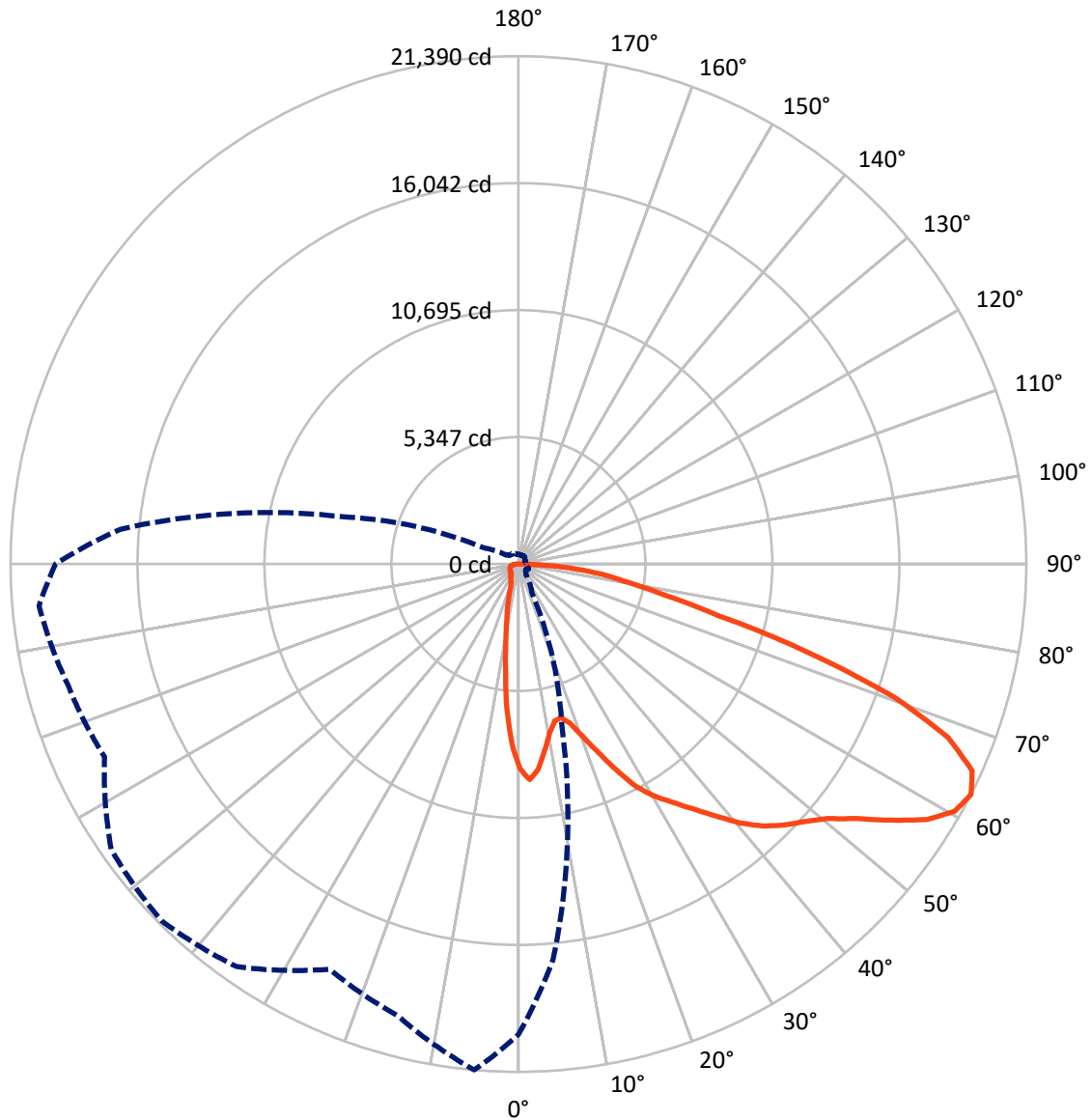
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4484.0	0.0	4484.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	20827.5	0.0	20827.5
	% Fixture	82.3	0.0	82.3
Total	Lumens	25311.4	0.0	25311.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	627.5	2.5
10°-20°	1146.2	4.5
20°-30°	1648.6	6.5
30°-40°	2525.0	10.0
40°-50°	3691.5	14.6
50°-60°	5371.3	21.2
60°-70°	6223.3	24.6
70°-80°	3244.1	12.8
80°-90°	833.9	3.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	25311.4	100.0
0°-180°	25311.4	100.0



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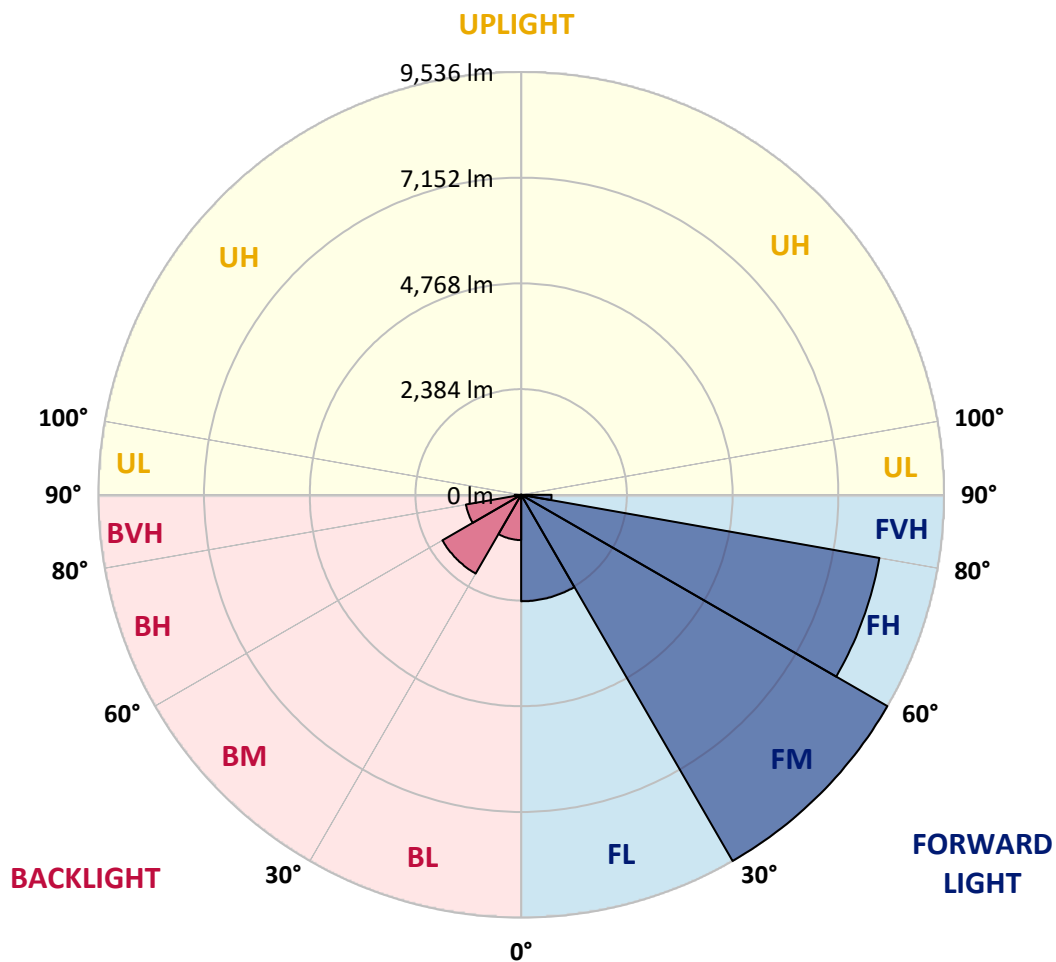
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2402.2	9.5			
FM	(30°-60°)	9536.2	37.7			
FH	(60°-80°)	8203.1	32.4			G4/12000
FVH	(80°-90°)	686.0	2.7			G4/750
BL	(0°-30°)	1020.2	4.0	B3/2500		
BM	(30°-60°)	2051.6	8.1	B2/2500		
BH	(60°-80°)	1264.3	5.0	B3/2500		G3/2500
BVH	(80°-90°)	147.9	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2
2.5°	8908.1	8783.4	8495.2	8241.9	7926.3	7689.5	7401.4	7249.1	7137.2	7061.8	7001.3
5°	8320.9	8019.9	7469.2	6986.7	6465.5	6089.3	5648.8	5408.3	5259.8	5179.0	5142.3
7.5°	7449.1	7050.8	6338.8	5691.0	5039.5	4569.7	4235.7	3879.6	3690.5	3567.7	3527.3
10°	6687.5	6237.9	5388.2	4659.6	4156.7	3822.7	3536.4	3209.7	2967.6	2756.4	2677.6
12.5°	6245.2	5722.3	4753.2	4094.4	3672.2	3314.3	3011.6	2659.3	2404.1	2183.9	2099.5
15°	6151.7	5568.1	4487.2	3734.7	3217.1	2785.9	2422.5	2039.0	1789.3	1607.6	1548.9
17.5°	6434.3	5714.8	4375.1	3406.2	2782.2	2255.5	1807.7	1396.5	1189.3	1090.2	1066.3
20°	7016.0	6037.9	4321.9	3110.7	2360.0	1736.2	1249.8	948.8	846.1	816.6	814.9
22.5°	7781.3	6562.7	4380.7	2868.5	1963.7	1281.0	915.7	780.0	737.8	721.2	721.2
25°	8645.6	7272.9	4536.6	2683.1	1615.1	996.5	789.2	715.7	680.8	664.3	666.3
27.5°	9702.8	8137.3	4749.5	2512.4	1365.5	873.5	737.8	675.3	640.5	624.0	625.8
30°	10499.2	8880.6	4933.0	2356.4	1237.0	824.0	710.2	651.5	613.0	589.1	587.2
32.5°	11244.4	9535.8	5081.7	2244.4	1163.6	735.9	642.3	598.4	565.3	537.7	532.2
35°	12068.4	10152.5	5151.4	2240.8	1115.9	664.3	587.2	534.0	501.1	469.9	464.3
37.5°	13002.4	10906.7	5210.2	2262.8	1090.2	618.5	561.6	510.1	482.7	451.5	444.1
40°	13975.1	11644.4	5256.1	2281.2	1086.4	587.2	541.4	495.5	467.9	435.0	427.7
42.5°	14810.1	12297.7	5318.4	2273.8	1060.8	581.7	528.6	482.7	457.0	423.9	414.7
45°	15478.2	12817.1	5415.7	2272.1	1022.2	594.6	524.9	478.9	447.7	413.0	405.6
47.5°	16100.3	13402.5	5621.2	2264.6	980.1	590.9	545.0	475.4	444.1	409.3	403.8
50°	16812.4	14189.8	5971.8	2209.7	921.3	565.3	581.7	471.6	435.0	403.8	398.3
52.5°	17803.4	15342.4	6491.2	2110.5	840.5	537.7	587.2	469.9	420.2	392.6	385.5
55°	18968.8	16577.5	7050.8	1967.4	734.0	489.9	557.8	462.4	405.6	376.2	365.3
57.5°	19869.8	17489.6	7441.7	1761.8	629.5	462.4	497.3	446.0	387.2	357.9	348.7
60°	20123.1	17530.0	7511.5	1515.9	576.3	444.1	427.7	486.3	372.5	341.4	332.2
62.5°	19820.4	16728.0	7056.4	1343.3	557.8	425.7	389.1	464.3	357.9	326.7	317.6
65°	18922.8	15373.6	6037.9	1317.6	576.3	409.3	368.8	370.7	343.2	312.0	302.8
67.5°	16827.1	13380.6	4756.9	1334.3	598.4	392.6	354.2	337.8	326.7	299.1	288.1
70°	13685.1	10772.7	3747.5	1363.5	618.5	370.7	335.8	315.7	306.5	277.0	271.6
72.5°	10541.5	8621.8	2956.5	1343.3	638.6	348.7	310.2	293.7	282.6	255.1	249.5
75°	7485.8	6850.8	2172.9	1152.5	585.4	317.6	280.8	266.1	256.9	227.6	225.7
77.5°	5395.5	5131.3	1512.1	866.2	462.4	279.0	247.8	234.8	229.3	196.4	196.4
80°	4303.6	3905.3	904.8	565.3	337.8	231.3	207.4	201.8	196.4	163.3	165.2
82.5°	3092.3	2708.7	578.1	352.3	247.8	176.2	161.4	159.7	150.5	121.1	121.1
85°	1585.6	1383.7	370.7	236.8	174.4	113.7	106.4	102.8	97.2	75.3	75.3
87.5°	308.3	423.9	205.5	115.6	84.4	40.3	40.3	34.9	40.3	27.5	29.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2
2.5°	7116.9	7080.3	7054.6	7041.8	7227.0	7304.2	7392.2	7518.9	7605.1	7568.4	7685.9
5°	5314.8	5340.5	5399.3	5491.0	5749.7	5872.7	5951.6	6056.3	6131.4	6056.3	6181.0
7.5°	3633.7	3672.2	3797.0	3986.0	4298.1	4435.7	4463.1	4465.0	4448.5	4325.6	4410.0
10°	2675.7	2598.6	2626.1	2762.0	3040.9	3163.9	3176.8	3143.7	3138.1	3088.6	3184.1
12.5°	2073.7	1967.4	1904.9	1927.0	2136.2	2237.0	2253.7	2272.1	2347.2	2371.0	2488.6
15°	1547.2	1492.1	1446.1	1426.0	1563.6	1642.6	1651.8	1695.7	1774.6	1796.7	1897.6
17.5°	1088.2	1102.9	1126.8	1135.9	1235.1	1286.6	1271.8	1271.8	1284.7	1279.1	1336.0
20°	831.3	860.8	906.6	950.6	1040.5	1069.9	1033.2	987.3	958.0	943.3	956.2
22.5°	734.0	754.2	783.6	840.5	915.7	930.5	882.8	846.1	818.4	803.9	805.7
25°	680.8	701.0	724.9	770.7	835.1	842.4	798.4	774.5	752.4	737.8	734.0
27.5°	635.0	647.9	662.5	691.9	757.9	761.7	732.3	717.6	702.8	691.9	688.2
30°	592.8	598.4	603.8	633.1	682.7	688.2	673.5	666.3	660.7	653.3	653.3
32.5°	537.7	545.0	554.3	579.9	627.6	635.0	625.8	620.3	611.1	607.4	602.0
35°	471.6	489.9	510.1	541.4	592.8	596.5	585.4	568.9	546.9	541.4	537.7
37.5°	444.1	447.7	473.4	510.1	563.3	567.1	552.4	524.9	508.4	510.1	513.9
40°	425.7	431.2	446.0	482.7	535.8	541.4	528.6	508.4	491.8	493.7	499.2
42.5°	411.1	418.4	427.7	451.5	504.7	515.6	512.0	493.7	477.2	480.9	488.1
45°	403.8	409.3	409.3	425.7	477.2	493.7	495.5	480.9	467.9	471.6	480.9
47.5°	400.0	400.0	394.5	407.4	458.9	475.4	478.9	471.6	464.3	467.9	477.2
50°	394.5	387.2	381.7	392.6	444.1	458.9	462.4	457.0	460.7	467.9	473.4
52.5°	378.0	370.7	370.7	378.0	429.4	444.1	446.0	442.2	449.6	458.9	467.9
55°	357.9	357.9	359.7	367.0	422.2	433.2	431.2	427.7	435.0	446.0	455.1
57.5°	339.5	337.8	346.8	356.0	413.0	420.2	416.6	416.6	422.2	431.2	440.4
60°	328.5	319.3	326.7	341.4	403.8	411.1	405.6	403.8	413.0	420.2	427.7
62.5°	317.6	308.3	313.8	328.5	390.9	396.4	392.6	392.6	401.9	407.4	414.7
65°	301.0	297.2	301.0	315.7	380.0	381.7	381.7	383.5	390.9	394.5	401.9
67.5°	286.3	286.3	288.1	302.8	370.7	367.0	367.0	376.2	378.0	381.7	389.1
70°	268.0	271.6	271.6	290.0	363.4	350.5	352.3	359.7	363.4	367.0	368.8
72.5°	247.8	249.5	253.2	277.0	352.3	334.0	335.8	341.4	343.2	348.7	350.5
75°	225.7	227.6	233.1	264.3	344.9	317.6	313.8	317.6	321.1	324.8	323.0
77.5°	200.1	203.7	209.2	256.9	321.1	313.8	286.3	290.0	293.7	293.7	291.8
80°	168.8	174.4	183.6	246.0	271.6	302.8	255.1	256.9	258.7	258.7	255.1
82.5°	126.7	137.6	150.5	203.7	212.9	258.7	220.3	223.9	218.4	214.8	212.9
85°	82.6	91.7	110.1	141.4	155.9	203.7	181.6	183.6	172.6	170.7	170.7
87.5°	33.1	34.9	49.5	71.5	93.7	126.7	130.3	133.9	124.8	124.8	128.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2
2.5°	7863.9	8047.3	8258.5	8473.2	8649.4	8877.0	9097.1	9332.0	9451.3	9521.0	9717.4
5°	6375.5	6626.9	6926.1	7262.0	7540.9	8018.0	8531.9	9104.5	9379.7	9651.4	10165.2
7.5°	4560.5	4806.4	5155.2	5590.1	5986.5	6615.9	7293.1	8067.6	8449.3	8889.7	9732.1
10°	3386.0	3646.6	3962.2	4331.1	4722.0	5377.2	6137.0	7006.8	7427.0	7924.5	8882.4
12.5°	2745.5	3050.1	3376.8	3707.1	4043.0	4483.4	5279.9	6247.1	6698.5	7199.6	8159.3
15°	2141.6	2468.4	2820.7	3180.4	3514.3	4006.4	4819.2	5962.6	6478.2	6962.9	7748.3
17.5°	1515.9	1824.2	2220.6	2657.4	3141.9	3723.7	4720.1	6087.5	6713.3	7219.7	7746.4
20°	1033.2	1246.0	1642.6	2160.1	2758.3	3496.1	4756.9	6525.9	7307.8	7863.9	8063.9
22.5°	825.8	926.8	1194.7	1721.4	2427.9	3330.9	4907.4	7128.1	8161.2	8838.3	8642.1
25°	750.7	807.4	947.0	1359.9	2134.4	3220.9	5200.9	7922.6	9117.3	9803.7	9337.5
27.5°	704.7	754.2	844.1	1117.6	1881.1	3149.2	5573.5	8858.5	10194.7	10758.0	10062.5
30°	675.3	724.9	807.4	1003.9	1690.3	3042.7	5900.2	9713.8	11055.4	11420.5	10453.3
32.5°	618.5	657.0	724.9	899.3	1547.2	2918.0	6182.9	10479.1	11868.2	11989.5	10923.2
35°	559.7	600.1	668.0	814.9	1462.7	2820.7	6331.4	11158.0	12673.9	12558.3	11389.3
37.5°	537.7	570.8	633.1	754.2	1416.7	2756.4	6388.3	11826.0	13538.4	13187.8	11714.2
40°	523.1	552.4	607.4	714.0	1404.0	2696.0	6375.5	12461.1	14377.1	13839.4	11969.2
42.5°	512.0	537.7	589.1	686.3	1369.0	2639.0	6333.3	13009.9	15048.8	14400.9	12213.4
45°	502.8	530.4	581.7	701.0	1304.9	2576.7	6307.5	13510.9	15564.5	14874.3	12540.0
47.5°	499.2	530.4	583.5	697.4	1235.1	2506.9	6399.3	14066.9	16014.1	15272.7	12974.9
50°	493.7	528.6	624.0	664.3	1139.7	2420.7	6709.5	14729.4	16485.8	15720.3	13538.4
52.5°	484.5	526.6	666.3	638.6	1016.7	2301.4	7212.4	15665.4	17300.5	16592.1	14371.5
55°	473.4	530.4	636.8	598.4	886.4	2147.2	7715.3	16948.2	18622.0	17997.9	15568.0
57.5°	460.7	524.9	602.0	561.6	778.1	1952.6	8097.0	17999.8	19712.0	19447.8	17038.2
60°	451.5	537.7	541.4	539.5	708.5	1767.3	8133.7	17931.8	20025.8	20389.2	18476.9
62.5°	440.4	548.8	493.7	523.1	673.5	1594.9	7680.4	16821.5	19495.5	20268.1	19649.6
65°	425.7	478.9	467.9	508.4	673.5	1503.0	6625.1	14973.5	18029.2	19122.8	20286.5
67.5°	411.1	435.0	449.6	488.1	688.2	1416.7	5324.0	12629.9	15716.7	17274.9	19570.7
70°	390.9	411.1	429.4	469.9	680.8	1356.3	4189.8	10123.0	12934.5	14718.4	17590.5
72.5°	372.5	387.2	405.6	442.2	680.8	1328.8	3365.8	7940.9	9875.2	11378.3	14571.5
75°	344.9	357.9	374.4	414.7	668.0	1214.9	2527.1	6362.6	7225.2	8166.8	11497.5
77.5°	317.6	326.7	339.5	380.0	602.0	1014.8	1787.4	4927.6	5353.3	5874.6	8963.2
80°	282.6	290.0	299.1	339.5	499.2	787.4	1163.6	3854.0	4002.6	4254.1	5896.6
82.5°	242.3	253.2	255.1	291.8	401.9	570.8	691.9	2640.8	2639.0	3008.0	4160.4
85°	198.2	203.7	207.4	229.3	297.2	380.0	455.1	1442.5	1286.6	1802.2	3613.5
87.5°	148.7	143.1	148.7	154.1	196.4	223.9	244.1	266.1	159.7	326.7	2101.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2	8629.2
2.5°	9822.1	9930.4	9866.2	9789.0	9596.4	9313.6	9097.1	8908.1
5°	10521.3	10721.4	10633.1	10346.9	9847.8	9280.7	8684.3	8320.9
7.5°	10433.2	10829.5	10794.8	10317.6	9601.9	8766.7	7928.1	7449.1
10°	9728.5	10284.5	10379.9	9891.7	9133.8	8199.6	7228.9	6687.5
12.5°	8961.3	9429.2	9623.8	9438.5	8724.6	7775.8	6786.6	6245.2
15°	8319.1	8555.7	8748.5	8867.8	8425.5	7625.4	6709.5	6151.7
17.5°	7843.7	7797.7	7959.3	8245.6	8264.0	7825.3	7058.3	6434.3
20°	7614.4	7254.6	7348.1	7750.0	8219.9	8333.7	7753.8	7016.0
22.5°	7601.5	7039.8	7058.3	7491.3	8346.5	9027.3	8621.8	7781.3
25°	7799.7	7016.0	7032.6	7463.7	8570.4	9726.6	9625.7	8645.6
27.5°	8137.3	7118.8	7107.7	7584.8	8869.5	10310.2	10638.7	9702.8
30°	8502.5	7267.5	7239.9	7779.4	9163.3	10669.9	11358.1	10499.2
32.5°	8957.7	7531.7	7436.3	8063.9	9453.1	11014.9	11972.9	11244.4
35°	9390.8	7919.0	7781.3	8471.3	9763.3	11398.6	12661.2	12068.4
37.5°	9833.0	8497.1	8420.0	9058.6	10202.0	11815.0	13448.4	13002.4
40°	10400.1	9319.1	9282.5	9912.0	10787.3	12270.2	14331.2	13975.1
42.5°	11011.2	10192.8	10161.5	10891.9	11514.1	12727.1	15087.3	14810.1
45°	11633.4	11251.7	11259.0	11938.0	12279.4	13158.5	15681.9	15478.2
47.5°	12367.4	12409.7	12672.1	13022.6	13024.4	13639.2	16208.6	16100.3
50°	13299.8	13808.1	14292.7	14347.6	13776.9	14274.2	16852.7	16812.4
52.5°	14355.0	15421.4	15984.7	15810.3	14511.0	15061.6	17805.2	17803.4
55°	15608.5	17107.9	17638.2	17340.9	15390.1	16087.4	19049.5	18968.8
57.5°	16907.8	18730.2	19157.9	18770.5	16489.4	17282.2	20297.5	19869.8
60°	18311.8	20126.7	20561.8	19979.9	17722.7	18473.3	21123.3	20123.1
62.5°	19231.2	20943.4	21255.4	20697.5	18827.4	19686.4	21389.5	19820.4
65°	19279.0	20400.1	20482.9	20284.5	19297.3	20739.8	21004.0	18922.8
67.5°	17968.5	18034.6	18142.9	18355.7	18293.4	20270.0	19517.5	16827.1
70°	15166.3	14285.2	14641.4	14846.8	15309.4	18029.2	16770.2	13685.1
72.5°	11596.7	10310.2	10713.9	10644.2	11605.9	14788.2	12830.0	10541.5
75°	8346.5	7030.8	7061.8	7065.6	8339.1	11804.1	8748.5	7485.8
77.5°	5672.6	4975.3	5077.9	5013.8	5580.9	9247.6	6298.5	5395.5
80°	3879.6	3861.3	3883.4	3732.8	3721.8	5977.3	4663.3	4303.6
82.5°	2877.6	2659.3	2628.0	2468.4	2851.8	4569.7	3540.1	3092.3
85°	2270.1	1471.9	1279.1	1543.4	2470.2	4204.4	2158.2	1585.6
87.5°	961.6	578.1	350.5	693.8	1372.7	3081.4	598.4	308.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)