

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: P195728

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195728
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-02-D-UNV-SLL-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8692 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

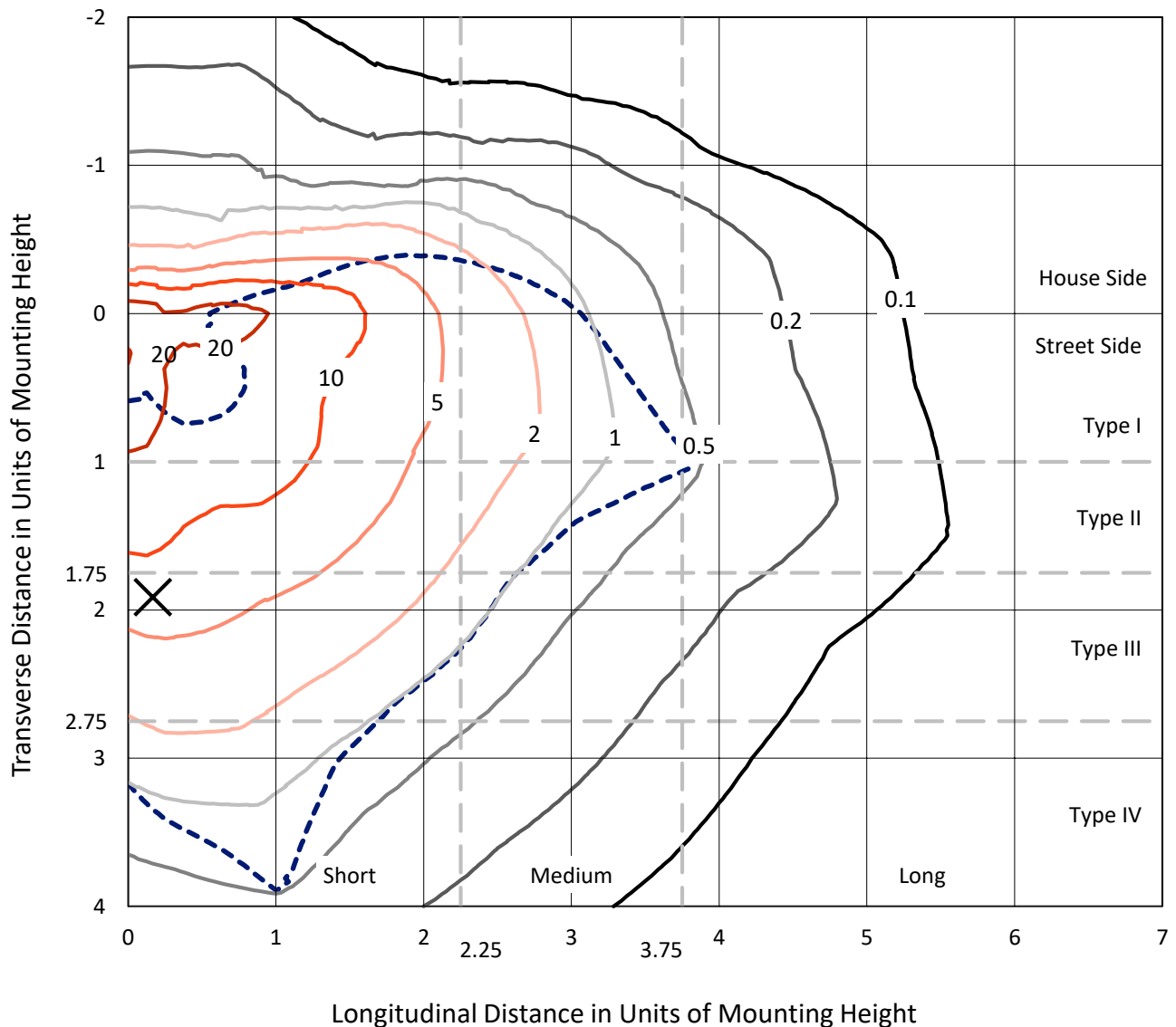
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

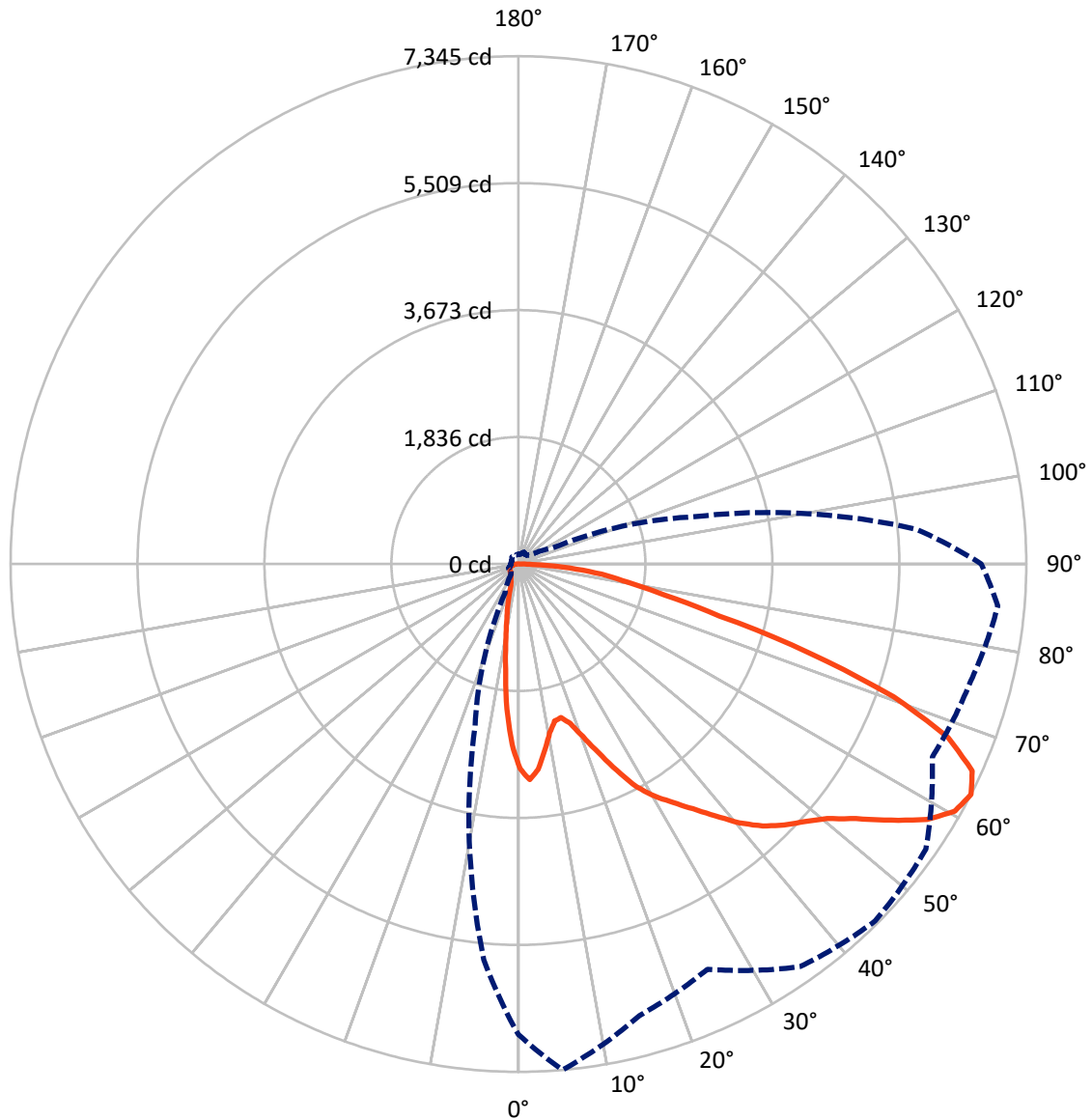
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 34 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1539.8	0.0	1539.8
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	7152.2	0.0	7152.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	8692.0	0.0	8692.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.5	2.5
10°-20°	393.6	4.5
20°-30°	566.1	6.5
30°-40°	867.1	10.0
40°-50°	1267.7	14.6
50°-60°	1844.5	21.2
60°-70°	2137.1	24.6
70°-80°	1114.0	12.8
80°-90°	286.4	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°	8692.0	100.0
0°-180°	8692.0	100.0



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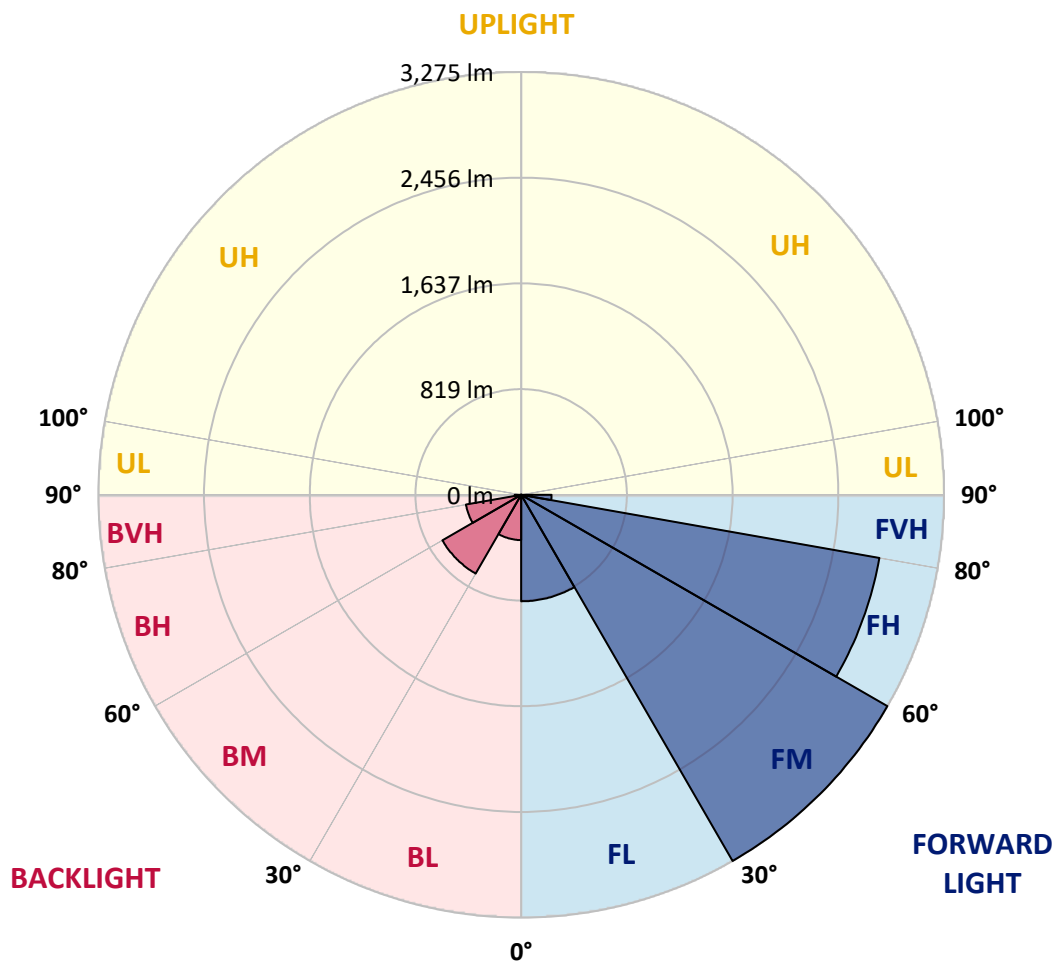
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	824.9	9.5			
FM	(30°-60°)	3274.7	37.7			
FH	(60°-80°)	2817.0	32.4			G2/5000
FVH	(80°-90°)	235.6	2.7			G3/500
BL	(0°-30°)	350.3	4.0	B1/500		
BM	(30°-60°)	704.5	8.1	B1/1000		
BH	(60°-80°)	434.2	5.0	B1/500		G1/500
BVH	(80°-90°)	50.8	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	3059.1	3124.0	3198.3	3295.4	3361.6	3388.0	3410.1	3372.9	3337.0	3269.6	3245.6
5°	2857.4	2982.2	3187.0	3381.7	3553.2	3651.5	3681.7	3613.0	3490.8	3314.3	3221.0
7.5°	2558.0	2722.5	3010.5	3297.3	3543.1	3706.9	3718.9	3582.8	3342.0	3052.8	2901.5
10°	2296.5	2482.4	2815.8	3136.6	3396.9	3564.5	3531.7	3340.8	3050.2	2721.3	2550.5
12.5°	2144.6	2330.5	2670.2	2996.0	3241.2	3304.9	3238.1	3077.3	2801.9	2472.3	2300.3
15°	2112.5	2304.1	2618.5	2893.3	3045.2	3004.2	2938.1	2856.8	2660.8	2391.0	2224.7
17.5°	2209.5	2423.8	2687.2	2837.9	2831.6	2733.2	2677.8	2693.5	2660.1	2479.3	2305.3
20°	2409.3	2662.7	2861.8	2822.7	2661.4	2523.4	2491.2	2614.8	2769.2	2700.5	2509.5
22.5°	2672.1	2960.8	3100.0	2866.2	2572.5	2423.8	2417.5	2610.4	2967.7	3035.1	2802.6
25°	2968.9	3305.5	3340.1	2943.1	2563.1	2415.0	2409.3	2678.4	3206.5	3366.6	3130.9
27.5°	3332.0	3653.4	3540.6	3045.8	2604.7	2440.8	2444.6	2794.4	3455.5	3694.3	3500.9
30°	3605.5	3900.4	3664.1	3146.7	2671.5	2486.2	2495.7	2919.8	3589.7	3921.8	3796.4
32.5°	3861.3	4111.5	3782.6	3246.2	2769.2	2553.6	2586.4	3076.1	3751.0	4117.2	4075.6
35°	4144.3	4347.9	3914.3	3352.7	2909.1	2672.1	2719.4	3224.8	3911.1	4312.6	4352.3
37.5°	4465.1	4618.2	4057.3	3503.4	3110.7	2891.4	2917.9	3376.7	4022.7	4528.7	4649.1
40°	4799.1	4921.4	4213.6	3704.4	3403.8	3187.6	3200.2	3571.4	4110.3	4752.5	4937.1
42.5°	5085.8	5181.0	4370.5	3954.0	3740.3	3489.5	3500.2	3781.3	4194.1	4945.3	5167.8
45°	5315.2	5385.2	4518.6	4216.8	4099.6	3866.4	3863.9	3994.9	4306.3	5107.9	5344.9
47.5°	5528.9	5566.1	4683.8	4472.6	4472.0	4351.6	4261.5	4247.0	4455.6	5244.7	5499.3
50°	5773.4	5787.3	4901.8	4731.0	4927.0	4908.1	4741.7	4567.2	4649.1	5398.4	5661.2
52.5°	6113.7	6114.4	5172.2	4983.1	5429.3	5489.2	5295.7	4929.6	4935.2	5697.8	5941.0
55°	6513.9	6541.6	5524.5	5285.0	5954.9	6057.0	5874.9	5360.0	5346.1	6180.5	6394.8
57.5°	6823.3	6970.2	5934.7	5662.5	6445.8	6578.8	6432.0	5806.2	5850.9	6678.4	6769.2
60°	6910.3	7253.8	6343.8	6086.0	6861.2	7060.9	6911.6	6288.3	6345.0	7001.7	6876.9
62.5°	6806.3	7345.2	6760.3	6465.4	7107.6	7299.2	7192.0	6604.0	6747.7	6960.1	6694.8
65°	6498.2	7212.8	7122.1	6626.7	6965.8	7033.8	7005.5	6620.4	6966.4	6566.9	6191.2
67.5°	5778.5	6702.3	6960.7	6282.0	6303.4	6230.3	6193.1	6170.4	6720.6	5932.2	5397.2
70°	4699.5	5758.9	6191.2	5257.3	5098.4	5027.9	4905.6	5208.1	6040.6	5054.3	4441.8
72.5°	3620.0	4405.8	5078.3	3985.5	3655.3	3679.2	3540.6	3982.3	5003.9	3907.3	3391.2
75°	2570.7	3004.2	4053.5	2863.7	2426.3	2425.1	2414.4	2866.2	3948.3	2804.5	2481.2
77.5°	1852.8	2162.9	3175.7	1916.5	1721.8	1743.8	1708.5	1948.0	3078.0	2017.3	1838.3
80°	1477.9	1601.4	2052.6	1278.1	1281.9	1333.5	1326.0	1332.3	2024.9	1460.8	1374.5
82.5°	1061.9	1215.7	1569.2	979.4	847.6	902.5	913.2	988.2	1428.7	1032.9	906.3
85°	544.5	741.1	1443.8	848.3	530.0	439.3	505.4	779.6	1240.9	618.9	441.8
87.5°	105.9	205.5	1058.1	471.4	238.2	120.4	198.5	330.2	721.6	112.2	54.8
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°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	3204.6	3124.0	3048.4	2970.2	2909.7	2836.0	2763.5	2700.5	2639.3	2599.0	2611.6
5°	3126.5	2929.9	2753.4	2589.6	2493.8	2378.4	2275.7	2189.4	2122.6	2079.7	2105.6
7.5°	2770.4	2504.5	2271.9	2055.8	1919.6	1770.3	1650.5	1566.1	1514.4	1485.4	1527.6
10°	2406.2	2107.4	1846.5	1621.5	1487.3	1360.6	1252.2	1162.7	1093.4	1060.7	1077.7
12.5°	2145.3	1813.1	1539.6	1388.4	1273.0	1159.6	1047.4	942.8	854.6	814.2	806.0
15°	2047.6	1654.9	1375.8	1206.9	1092.2	968.6	847.6	735.5	651.6	617.0	609.4
17.5°	2090.4	1620.9	1278.7	1078.9	912.6	762.6	626.4	520.6	458.8	439.3	441.2
20°	2241.0	1633.5	1200.6	947.2	741.8	564.0	427.9	354.8	328.3	323.9	329.0
22.5°	2447.8	1685.2	1143.8	833.8	591.1	410.3	318.3	283.6	276.7	276.0	281.1
25°	2720.6	1786.0	1106.0	732.9	467.0	325.2	277.3	257.8	252.1	253.3	258.4
27.5°	3042.1	1914.0	1081.5	646.0	383.8	289.9	259.0	242.0	236.3	237.6	241.4
30°	3335.7	2026.1	1044.9	580.4	344.7	277.3	248.9	231.9	224.4	224.4	226.9
32.5°	3598.5	2123.2	1002.0	531.3	308.8	248.9	225.6	212.4	206.7	208.6	209.9
35°	3831.7	2174.2	968.6	502.3	279.8	229.4	206.1	192.2	184.7	185.9	187.8
37.5°	4061.1	2193.8	946.6	486.5	259.0	217.4	196.0	184.7	176.5	175.2	174.6
40°	4279.2	2189.4	925.8	482.1	245.2	208.6	189.7	179.6	171.4	169.5	168.9
42.5°	4467.6	2174.9	906.3	470.1	235.7	202.3	184.7	175.8	167.6	165.1	163.9
45°	4639.7	2166.1	884.8	448.1	240.7	199.8	182.1	172.7	165.1	162.0	160.7
47.5°	4830.6	2197.6	860.9	424.1	239.5	200.4	182.1	171.4	163.9	160.7	159.4
50°	5058.1	2304.1	831.3	391.4	228.1	214.3	181.5	169.5	162.6	160.7	158.2
52.5°	5379.5	2476.7	790.3	349.1	219.3	228.8	180.9	166.4	160.7	157.6	154.4
55°	5820.0	2649.4	737.4	304.4	205.5	218.7	182.1	162.6	156.3	153.1	149.4
57.5°	6181.2	2780.5	670.5	267.2	192.8	206.7	180.2	158.2	151.3	148.1	144.9
60°	6157.8	2793.1	606.9	243.3	185.3	185.9	184.7	155.0	146.8	144.3	141.8
62.5°	5776.6	2637.5	547.7	231.3	179.6	169.5	188.4	151.3	142.4	139.9	138.0
65°	5141.9	2275.1	516.1	231.3	174.6	160.7	164.5	146.2	138.0	135.5	134.2
67.5°	4337.1	1828.3	486.5	236.3	167.6	154.4	149.4	141.2	133.6	131.1	129.8
70°	3476.3	1438.8	465.7	233.8	161.3	147.5	141.2	134.2	126.7	126.0	124.8
72.5°	2726.9	1155.8	456.3	233.8	151.9	139.3	133.0	127.9	120.4	119.7	117.9
75°	2185.0	867.8	417.2	229.4	142.4	128.6	122.9	118.5	110.9	111.5	110.3
77.5°	1692.1	613.8	348.5	206.7	130.5	116.6	112.2	109.0	100.2	100.8	100.8
80°	1323.5	399.6	270.4	171.4	116.6	102.7	99.6	97.1	87.6	88.9	88.9
82.5°	906.9	237.6	196.0	138.0	100.2	87.6	87.0	83.2	73.1	73.7	75.0
85°	495.3	156.3	130.5	102.1	78.8	71.2	70.0	68.1	58.6	58.6	59.2
87.5°	91.4	83.8	76.9	67.4	52.9	51.0	49.2	51.0	44.1	42.9	42.9
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°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	2582.0	2538.5	2508.3	2481.8	2418.1	2422.6	2431.4	2444.0	2404.3	2425.1	2450.9
5°	2079.7	2043.8	2016.7	1974.5	1885.6	1854.1	1833.9	1825.1	1765.9	1778.5	1806.2
7.5°	1533.3	1532.7	1523.2	1476.0	1368.8	1303.9	1261.1	1247.8	1211.3	1225.1	1267.4
10°	1079.6	1090.9	1086.5	1044.3	948.5	901.8	892.4	918.9	919.5	946.6	1019.1
12.5°	780.2	773.9	768.2	733.6	661.7	654.2	675.6	712.1	721.0	750.0	825.6
15°	582.3	567.2	564.0	536.9	489.7	496.6	512.4	531.3	531.9	552.1	614.5
17.5°	436.7	436.7	441.8	424.1	390.1	387.0	378.8	373.7	366.2	374.3	408.4
20°	339.1	354.8	367.4	357.3	326.5	311.3	295.6	285.5	279.8	280.4	290.5
22.5°	290.5	303.1	319.5	314.5	288.6	269.1	259.0	252.1	247.7	247.7	253.3
25°	266.0	274.1	289.3	286.7	264.7	248.9	240.7	233.8	228.8	228.1	233.8
27.5°	246.4	251.5	261.5	260.3	237.6	227.5	222.5	218.1	214.9	214.3	219.9
30°	228.8	231.3	236.3	234.4	217.4	207.3	205.5	203.6	201.7	202.3	210.5
32.5°	213.0	214.9	218.1	215.5	199.1	190.3	187.2	184.7	182.8	184.7	194.1
35°	195.4	201.0	204.8	203.6	185.9	175.2	168.3	162.0	159.4	161.3	172.0
37.5°	180.2	189.7	194.7	193.5	175.2	162.6	153.8	152.5	152.5	155.0	165.7
40°	174.6	181.5	185.9	184.0	165.7	153.1	148.1	146.2	146.8	149.4	160.7
42.5°	169.5	175.8	177.1	173.3	155.0	146.8	143.7	141.2	142.4	145.6	156.9
45°	165.1	170.2	169.5	163.9	146.2	140.5	140.5	138.6	139.3	141.8	153.8
47.5°	162.0	164.5	163.2	157.6	139.9	135.5	137.4	137.4	138.6	140.5	152.5
50°	156.9	158.8	157.6	152.5	134.9	131.1	133.0	135.5	136.8	138.6	149.4
52.5°	151.9	153.1	152.5	147.5	129.8	127.3	127.3	129.8	132.3	134.9	144.3
55°	146.8	148.1	148.7	144.9	126.0	123.5	122.9	122.9	125.4	129.2	139.3
57.5°	143.1	143.1	144.3	141.8	122.3	119.1	116.0	116.6	119.7	122.9	133.0
60°	138.6	139.3	141.2	138.6	117.2	112.2	109.7	112.8	114.1	117.2	127.9
62.5°	134.9	134.9	136.1	134.2	112.8	107.8	105.9	109.0	109.0	112.2	122.9
65°	131.7	131.1	131.1	130.5	108.4	103.4	102.1	103.4	104.0	107.1	117.9
67.5°	129.2	126.0	126.0	127.3	104.0	98.9	98.3	98.3	98.9	102.7	112.2
70°	123.5	121.0	120.4	124.8	99.6	93.3	93.3	92.0	93.3	95.2	105.2
72.5°	117.2	115.3	114.7	121.0	95.2	87.0	85.7	85.1	85.7	87.6	97.1
75°	109.0	107.8	109.0	118.5	90.8	80.0	78.1	77.5	77.5	78.1	88.2
77.5°	99.6	98.3	107.8	110.3	88.2	71.8	70.0	68.7	67.4	67.4	78.8
80°	88.2	87.6	104.0	93.3	84.4	63.0	59.9	58.0	56.7	56.1	67.4
82.5°	76.9	75.6	88.9	73.1	70.0	51.7	47.3	43.5	41.6	41.6	51.7
85°	63.0	62.4	70.0	53.6	48.5	37.8	31.5	28.4	25.8	25.8	33.4
87.5°	46.0	44.7	43.5	32.1	24.6	17.0	12.0	11.3	10.1	9.5	13.9
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°	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3	2963.3
2.5°	2489.4	2541.7	2640.6	2721.9	2830.3	2917.3	3016.2	3059.1
5°	1857.2	1939.8	2091.1	2220.3	2399.2	2565.0	2754.0	2857.4
7.5°	1332.3	1454.5	1569.2	1730.6	1954.3	2176.8	2421.3	2558.0
10°	1102.2	1214.4	1312.7	1427.4	1600.1	1850.3	2142.1	2296.5
12.5°	913.2	1034.2	1138.2	1261.1	1406.0	1632.3	1965.0	2144.6
15°	700.2	831.9	956.7	1104.8	1282.5	1540.9	1912.1	2112.5
17.5°	479.6	620.8	774.5	955.4	1169.7	1502.4	1962.5	2209.5
20°	325.8	429.2	596.2	810.5	1068.2	1484.2	2073.4	2409.3
22.5°	267.8	314.5	439.9	674.3	985.0	1504.3	2253.7	2672.1
25°	245.8	271.0	342.2	554.6	921.4	1557.9	2497.5	2968.9
27.5°	231.9	253.3	300.0	468.9	862.8	1631.0	2794.4	3332.0
30°	223.7	243.9	283.0	424.8	809.2	1694.0	3049.6	3605.5
32.5°	205.5	220.6	252.7	399.6	770.8	1745.1	3274.6	3861.3
35°	183.4	201.7	228.1	383.2	769.5	1769.0	3486.4	4144.3
37.5°	175.2	192.8	212.4	374.3	777.1	1789.2	3745.4	4465.1
40°	170.2	185.9	201.7	373.1	783.4	1804.9	3998.7	4799.1
42.5°	165.7	181.5	199.8	364.3	780.8	1826.4	4223.1	5085.8
45°	164.5	180.2	204.2	351.0	780.2	1859.8	4401.4	5315.2
47.5°	163.2	187.2	202.9	336.5	777.7	1930.4	4602.5	5528.9
50°	162.0	199.8	194.1	316.4	758.8	2050.7	4872.8	5773.4
52.5°	161.3	201.7	184.7	288.6	724.7	2229.1	5268.6	6113.7
55°	158.8	191.6	168.3	252.1	675.6	2421.3	5692.7	6513.9
57.5°	153.1	170.8	158.8	216.2	605.0	2555.5	6006.0	6823.3
60°	167.0	146.8	152.5	197.9	520.6	2579.5	6019.8	6910.3
62.5°	159.4	133.6	146.2	191.6	461.3	2423.2	5744.4	6806.3
65°	127.3	126.7	140.5	197.9	452.5	2073.4	5279.3	6498.2
67.5°	116.0	121.6	134.9	205.5	458.2	1633.5	4594.9	5778.5
70°	108.4	115.3	127.3	212.4	468.3	1286.9	3699.4	4699.5
72.5°	100.8	106.5	119.7	219.3	461.3	1015.3	2960.8	3620.0
75°	91.4	96.4	109.0	201.0	395.8	746.2	2352.6	2570.7
77.5°	80.7	85.1	95.8	158.8	297.5	519.3	1762.1	1852.8
80°	69.3	71.2	79.4	116.0	194.1	310.7	1341.1	1477.9
82.5°	54.8	55.5	60.5	85.1	121.0	198.5	930.2	1061.9
85°	35.3	36.6	39.1	59.9	81.3	127.3	475.2	544.5
87.5°	12.0	13.9	13.9	29.0	39.7	70.6	145.6	105.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)