

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: P195760

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195760
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-04-D-UNV-SLR-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1050mA 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: 21548 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

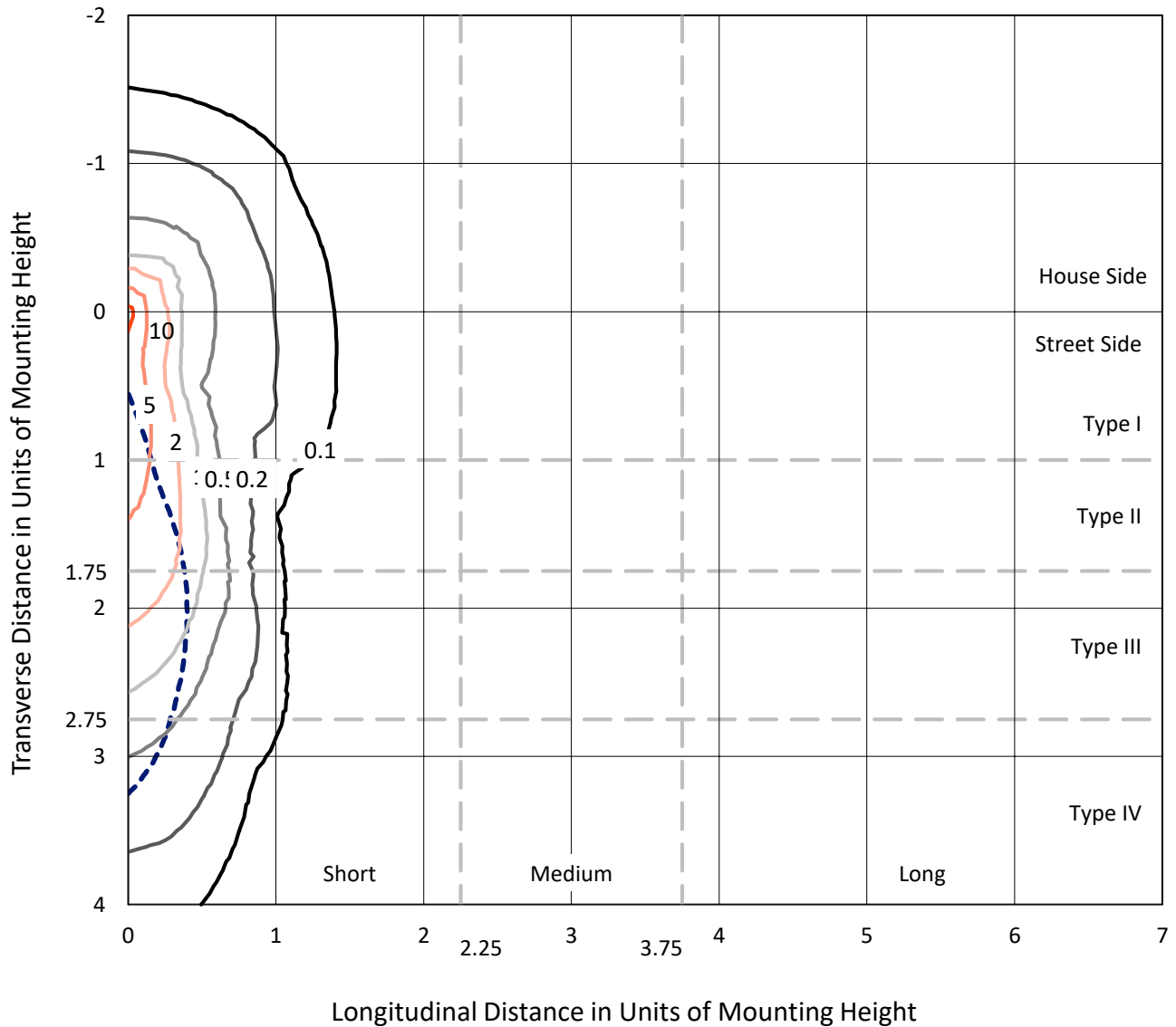
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

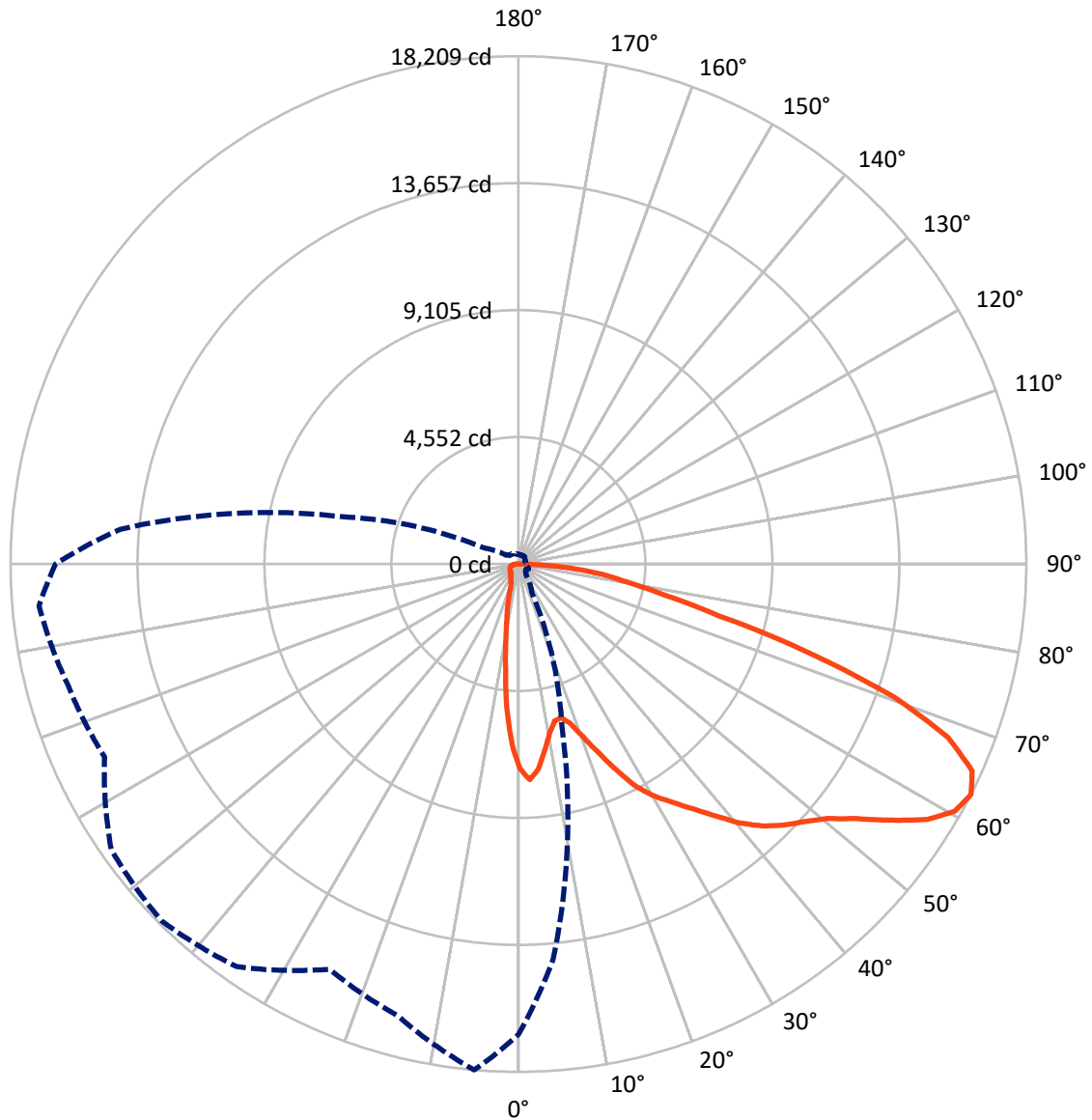
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.8 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	3817.3	0.0	3817.3
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	17730.7	0.0	17730.7
	% Fixture	82.3	0.0	82.3
Total	Lumens	21548.0	0.0	21548.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	534.2	2.5
10°-20°	975.8	4.5
20°-30°	1403.5	6.5
30°-40°	2149.5	10.0
40°-50°	3142.7	14.6
50°-60°	4572.6	21.2
60°-70°	5298.0	24.6
70°-80°	2761.8	12.8
80°-90°	709.9	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°	21548.0	100.0
0°-180°	21548.0	100.0



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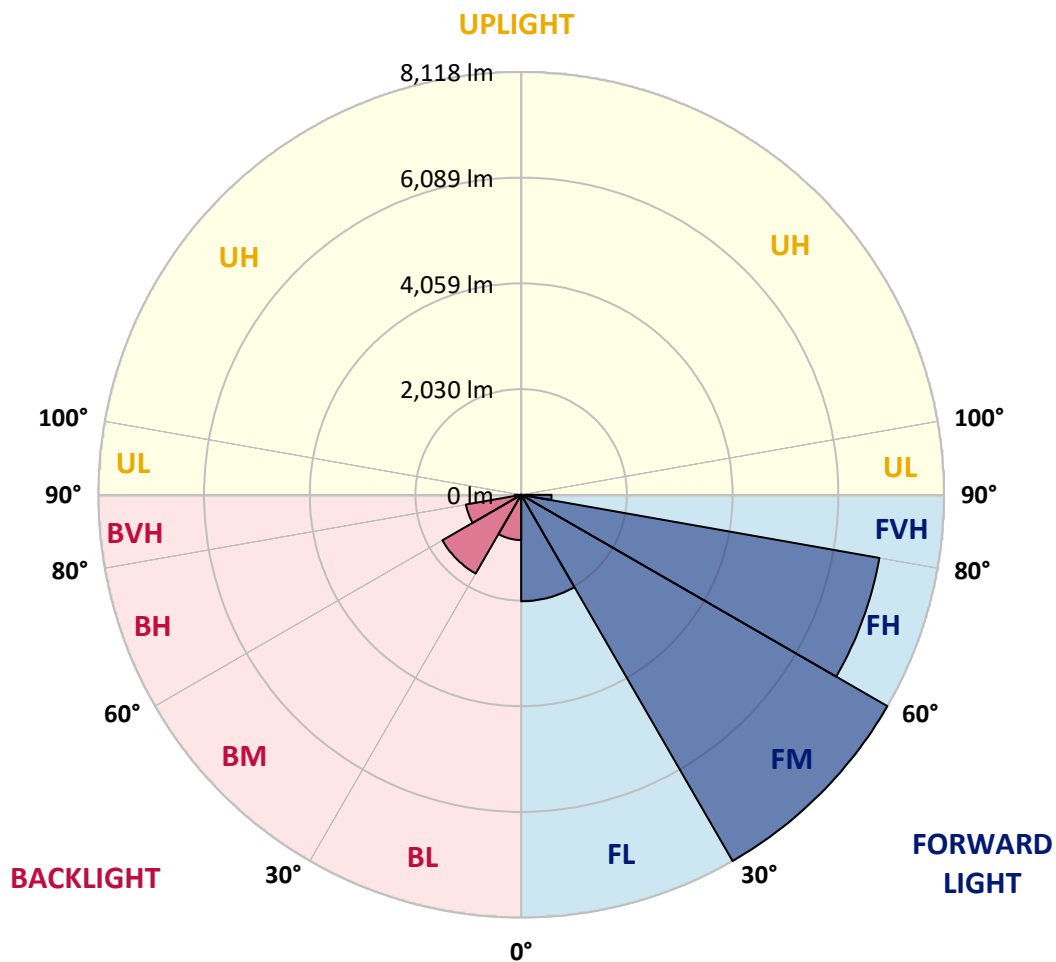
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2045.0	9.5			
FM	(30°-60°)	8118.3	37.7			
FH	(60°-80°)	6983.4	32.4			G3/7500
FVH	(80°-90°)	584.0	2.7			G4/750
BL	(0°-30°)	868.5	4.0	B2/1000		
BM	(30°-60°)	1746.5	8.1	B2/2500		
BH	(60°-80°)	1076.4	5.0	B3/2500		G3/2500
BVH	(80°-90°)	125.9	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°	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1
2.5°	7583.6	7477.4	7232.1	7016.5	6747.8	6546.2	6300.9	6171.3	6076.0	6011.9	5960.3
5°	7083.7	6827.4	6358.7	5947.8	5504.1	5183.9	4808.9	4604.2	4477.7	4408.9	4377.7
7.5°	6341.6	6002.5	5396.3	4844.8	4290.2	3890.2	3605.9	3302.8	3141.9	3037.2	3002.8
10°	5693.2	5310.4	4587.0	3966.8	3538.7	3254.4	3010.6	2732.5	2526.3	2346.6	2279.5
12.5°	5316.7	4871.4	4046.5	3485.6	3126.3	2821.6	2563.8	2263.8	2046.7	1859.2	1787.3
15°	5237.0	4740.2	3819.9	3179.4	2738.8	2371.6	2062.3	1735.8	1523.3	1368.6	1318.6
17.5°	5477.6	4865.1	3724.6	2899.7	2368.5	1920.1	1538.9	1188.9	1012.4	928.0	907.7
20°	5972.8	5140.1	3679.3	2648.2	2009.2	1478.0	1064.0	807.7	720.2	695.2	693.7
22.5°	6624.3	5586.9	3729.3	2441.9	1671.7	1090.5	779.6	664.0	628.1	614.0	614.0
25°	7360.2	6191.6	3862.1	2284.1	1374.9	848.4	671.8	609.3	579.6	565.6	567.1
27.5°	8260.1	6927.4	4043.3	2138.8	1162.4	743.7	628.1	574.9	545.3	531.2	532.8
30°	8938.2	7560.2	4199.6	2006.0	1053.0	701.5	604.6	554.6	521.8	501.5	500.0
32.5°	9572.5	8117.9	4326.1	1910.7	990.5	626.5	546.8	509.3	481.2	457.8	453.1
35°	10274.0	8642.9	4385.5	1907.6	949.9	565.6	500.0	454.6	426.5	400.0	395.3
37.5°	11069.2	9285.0	4435.5	1926.4	928.0	526.5	478.1	434.3	410.9	384.3	378.1
40°	11897.3	9913.1	4474.6	1942.0	924.9	500.0	460.9	421.8	398.4	370.3	364.0
42.5°	12608.1	10469.3	4527.7	1935.7	903.0	495.3	450.0	410.9	389.0	360.9	353.1
45°	13176.8	10911.4	4610.5	1934.2	870.2	506.2	446.8	407.8	381.2	351.5	345.3
47.5°	13706.4	11409.8	4785.5	1927.9	834.3	503.1	464.0	404.6	378.1	348.4	343.7
50°	14312.6	12080.0	5083.9	1881.1	784.3	481.2	495.3	401.5	370.3	343.7	339.0
52.5°	15156.3	13061.2	5526.0	1796.7	715.6	457.8	500.0	400.0	357.8	334.3	328.1
55°	16148.4	14112.7	6002.5	1674.8	624.9	417.1	475.0	393.7	345.3	320.3	310.9
57.5°	16915.5	14889.1	6335.3	1499.9	535.9	393.7	423.4	379.6	329.7	304.7	296.8
60°	17131.1	14923.5	6394.7	1290.5	490.6	378.1	364.0	414.0	317.2	290.6	282.8
62.5°	16873.3	14240.8	6007.2	1143.6	475.0	362.5	331.2	395.3	304.7	278.1	270.3
65°	16109.3	13087.8	5140.1	1121.8	490.6	348.4	314.0	315.6	292.2	265.6	257.8
67.5°	14325.1	11391.1	4049.6	1135.8	509.3	334.3	301.5	287.5	278.1	254.7	245.3
70°	11650.4	9171.0	3190.3	1160.8	526.5	315.6	285.9	268.7	260.9	235.9	231.2
72.5°	8974.1	7339.9	2516.9	1143.6	543.7	296.8	264.0	250.0	240.6	217.2	212.5
75°	6372.8	5832.2	1849.8	981.2	498.4	270.3	239.0	226.5	218.7	193.7	192.2
77.5°	4593.3	4368.3	1287.4	737.4	393.7	237.5	210.9	200.0	195.3	167.2	167.2
80°	3663.7	3324.7	770.2	481.2	287.5	196.9	176.5	171.9	167.2	139.0	140.6
82.5°	2632.5	2306.0	492.1	300.0	210.9	150.0	137.5	135.9	128.1	103.1	103.1
85°	1349.9	1178.0	315.6	201.5	148.4	96.9	90.6	87.5	82.8	64.1	64.1
87.5°	262.5	360.9	175.0	98.4	71.9	34.4	34.4	29.7	34.4	23.4	25.0
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°	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1
2.5°	6058.8	6027.5	6005.7	5994.7	6152.5	6218.1	6293.1	6400.9	6474.4	6443.1	6543.1
5°	4524.5	4546.4	4596.4	4674.5	4894.8	4999.5	5066.7	5155.7	5219.8	5155.7	5262.0
7.5°	3093.4	3126.3	3232.5	3393.4	3659.0	3776.2	3799.6	3801.2	3787.1	3682.4	3754.3
10°	2277.9	2212.3	2235.7	2351.3	2588.8	2693.5	2704.4	2676.3	2671.6	2629.4	2710.7
12.5°	1765.4	1674.8	1621.7	1640.5	1818.6	1904.5	1918.6	1934.2	1998.2	2018.5	2118.5
15°	1317.1	1270.2	1231.1	1213.9	1331.1	1398.3	1406.1	1443.6	1510.8	1529.5	1615.5
17.5°	926.5	939.0	959.3	967.1	1051.5	1095.2	1082.7	1082.7	1093.6	1089.0	1137.4
20°	707.7	732.7	771.8	809.3	885.8	910.8	879.6	840.5	815.5	803.0	814.0
22.5°	624.9	642.1	667.1	715.6	779.6	792.1	751.5	720.2	696.8	684.3	685.9
25°	579.6	596.8	617.1	656.2	710.9	717.1	679.6	659.3	640.6	628.1	624.9
27.5°	540.6	551.5	564.0	589.0	645.2	648.4	623.4	610.9	598.4	589.0	585.9
30°	504.6	509.3	514.0	539.0	581.2	585.9	573.4	567.1	562.4	556.2	556.2
32.5°	457.8	464.0	471.8	493.7	534.3	540.6	532.8	528.1	520.3	517.1	512.4
35°	401.5	417.1	434.3	460.9	504.6	507.8	498.4	484.3	465.6	460.9	457.8
37.5°	378.1	381.2	403.1	434.3	479.6	482.8	470.3	446.8	432.8	434.3	437.5
40°	362.5	367.2	379.6	410.9	456.2	460.9	450.0	432.8	418.7	420.3	425.0
42.5°	350.0	356.2	364.0	384.3	429.6	439.0	435.9	420.3	406.2	409.3	415.6
45°	343.7	348.4	348.4	362.5	406.2	420.3	421.8	409.3	398.4	401.5	409.3
47.5°	340.6	340.6	335.9	346.8	390.6	404.6	407.8	401.5	395.3	398.4	406.2
50°	335.9	329.7	325.0	334.3	378.1	390.6	393.7	389.0	392.1	398.4	403.1
52.5°	321.8	315.6	315.6	321.8	365.6	378.1	379.6	376.5	382.8	390.6	398.4
55°	304.7	304.7	306.2	312.5	359.3	368.7	367.2	364.0	370.3	379.6	387.5
57.5°	289.0	287.5	295.3	303.1	351.5	357.8	354.7	354.7	359.3	367.2	375.0
60°	279.7	271.8	278.1	290.6	343.7	350.0	345.3	343.7	351.5	357.8	364.0
62.5°	270.3	262.5	267.2	279.7	332.8	337.5	334.3	334.3	342.2	346.8	353.1
65°	256.2	253.1	256.2	268.7	323.4	325.0	325.0	326.5	332.8	335.9	342.2
67.5°	243.7	243.7	245.3	257.8	315.6	312.5	312.5	320.3	321.8	325.0	331.2
70°	228.1	231.2	231.2	246.9	309.3	298.4	300.0	306.2	309.3	312.5	314.0
72.5°	210.9	212.5	215.6	235.9	300.0	284.3	285.9	290.6	292.2	296.8	298.4
75°	192.2	193.7	198.4	225.0	293.7	270.3	267.2	270.3	273.4	276.5	275.0
77.5°	170.3	173.4	178.1	218.7	273.4	267.2	243.7	246.9	250.0	250.0	248.4
80°	143.7	148.4	156.2	209.4	231.2	257.8	217.2	218.7	220.3	220.3	217.2
82.5°	107.8	117.2	128.1	173.4	181.2	220.3	187.5	190.6	185.9	182.8	181.2
85°	70.3	78.1	93.7	120.3	132.8	173.4	154.7	156.2	146.9	145.3	145.3
87.5°	28.1	29.7	42.2	60.9	79.7	107.8	110.9	114.1	106.2	106.2	109.4
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1
2.5°	6694.6	6850.9	7030.5	7213.3	7363.3	7557.1	7744.5	7944.5	8046.1	8105.4	8272.6
5°	5427.6	5641.6	5896.3	6182.2	6419.7	6825.9	7263.3	7750.8	7985.1	8216.4	8653.8
7.5°	3882.4	4091.8	4388.6	4758.9	5096.4	5632.3	6208.8	6868.1	7193.0	7568.0	8285.1
10°	2882.5	3104.4	3373.1	3687.1	4019.9	4577.7	5224.5	5965.0	6322.8	6746.2	7561.7
12.5°	2337.3	2596.6	2874.7	3155.9	3441.8	3816.8	4494.9	5318.2	5702.6	6129.1	6946.2
15°	1823.3	2101.4	2401.3	2707.5	2991.9	3410.6	4102.7	5076.1	5515.1	5927.5	6596.2
17.5°	1290.5	1553.0	1890.4	2262.3	2674.7	3170.0	4018.3	5182.3	5715.1	6146.3	6594.7
20°	879.6	1060.8	1398.3	1838.9	2348.2	2976.3	4049.6	5555.7	6221.3	6694.6	6864.9
22.5°	703.1	789.0	1017.1	1465.5	2067.0	2835.7	4177.7	6068.1	6947.7	7524.2	7357.1
25°	639.0	687.4	806.2	1157.7	1817.0	2741.9	4427.7	6744.6	7761.7	8346.0	7949.2
27.5°	599.9	642.1	718.7	951.5	1601.4	2681.0	4744.8	7541.4	8678.8	9158.5	8566.3
30°	574.9	617.1	687.4	854.6	1438.9	2590.4	5022.9	8269.5	9411.6	9722.5	8899.1
32.5°	526.5	559.3	617.1	765.5	1317.1	2484.1	5263.5	8921.0	10103.7	10206.8	9299.1
35°	476.5	510.9	568.7	693.7	1245.2	2401.3	5390.1	9499.1	10789.5	10691.1	9695.9
37.5°	457.8	485.9	539.0	642.1	1206.1	2346.6	5438.5	10067.7	11525.4	11227.0	9972.4
40°	445.3	470.3	517.1	607.8	1195.2	2295.1	5427.6	10608.3	12239.4	11781.6	10189.6
42.5°	435.9	457.8	501.5	584.3	1165.5	2246.7	5391.6	11075.5	12811.2	12259.7	10397.4
45°	428.1	451.5	495.3	596.8	1110.8	2193.5	5369.8	11502.0	13250.2	12662.8	10675.5
47.5°	425.0	451.5	496.8	593.7	1051.5	2134.2	5447.9	11975.4	13633.0	13001.8	11045.8
50°	420.3	450.0	531.2	565.6	970.2	2060.7	5711.9	12539.4	14034.5	13383.0	11525.4
52.5°	412.5	448.4	567.1	543.7	865.5	1959.2	6140.0	13336.2	14728.2	14125.2	12234.7
55°	403.1	451.5	542.1	509.3	754.6	1827.9	6568.1	14428.2	15853.1	15321.9	13253.4
57.5°	392.1	446.8	512.4	478.1	662.4	1662.3	6893.1	15323.5	16781.1	16556.2	14504.8
60°	384.3	457.8	460.9	459.3	603.1	1504.5	6924.3	15265.7	17048.3	17357.6	15729.7
62.5°	375.0	467.1	420.3	445.3	573.4	1357.7	6538.4	14320.4	16596.8	17254.5	16728.0
65°	362.5	407.8	398.4	432.8	573.4	1279.6	5640.1	12747.2	15348.5	16279.6	17270.2
67.5°	350.0	370.3	382.8	415.6	585.9	1206.1	4532.4	10752.1	13379.9	14706.3	16660.8
70°	332.8	350.0	365.6	400.0	579.6	1154.6	3566.8	8617.9	11011.4	12530.0	14975.1
72.5°	317.2	329.7	345.3	376.5	579.6	1131.1	2865.3	6760.3	8407.0	9686.5	12405.0
75°	293.7	304.7	318.7	353.1	568.7	1034.3	2151.3	5416.6	6150.9	6952.4	9788.1
77.5°	270.3	278.1	289.0	323.4	512.4	864.0	1521.7	4194.9	4557.4	5001.1	7630.5
80°	240.6	246.9	254.7	289.0	425.0	670.2	990.5	3280.9	3407.5	3621.5	5019.8
82.5°	206.2	215.6	217.2	248.4	342.2	485.9	589.0	2248.2	2246.7	2560.7	3541.8
85°	168.7	173.4	176.5	195.3	253.1	323.4	387.5	1228.0	1095.2	1534.2	3076.3
87.5°	126.5	121.9	126.5	131.2	167.2	190.6	207.8	226.5	135.9	278.1	1788.9
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°	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1	7346.1
2.5°	8361.7	8453.8	8399.2	8333.5	8169.5	7928.9	7744.5	7583.6
5°	8956.9	9127.2	9052.2	8808.5	8383.5	7900.8	7393.0	7083.7
7.5°	8881.9	9219.4	9189.7	8783.5	8174.2	7463.3	6749.3	6341.6
10°	8282.0	8755.4	8836.6	8421.0	7775.8	6980.6	6154.1	5693.2
12.5°	7628.9	8027.3	8192.9	8035.1	7427.4	6619.7	5777.5	5316.7
15°	7082.1	7283.6	7447.7	7549.2	7172.7	6491.5	5711.9	5237.0
17.5°	6677.5	6638.4	6775.9	7019.6	7035.2	6661.8	6008.8	5477.6
20°	6482.2	6175.9	6255.6	6597.8	6997.7	7094.6	6600.9	5972.8
22.5°	6471.2	5993.2	6008.8	6377.5	7105.5	7685.2	7339.9	6624.3
25°	6640.0	5972.8	5986.9	6354.1	7296.1	8280.4	8194.5	7360.2
27.5°	6927.4	6060.3	6051.0	6457.2	7550.8	8777.2	9056.9	8260.1
30°	7238.3	6186.9	6163.4	6622.8	7800.8	9083.5	9669.3	8938.2
32.5°	7625.8	6411.9	6330.6	6864.9	8047.6	9377.2	10192.7	9572.5
35°	7994.5	6741.5	6624.3	7211.8	8311.7	9703.7	10778.6	10274.0
37.5°	8371.0	7233.7	7168.0	7711.7	8685.1	10058.4	11448.9	11069.2
40°	8853.8	7933.6	7902.3	8438.2	9183.5	10445.8	12200.3	11897.3
42.5°	9374.1	8677.3	8650.7	9272.5	9802.1	10834.9	12844.0	12608.1
45°	9903.7	9578.7	9585.0	10163.0	10453.6	11202.0	13350.2	13176.8
47.5°	10528.6	10564.6	10788.0	11086.4	11088.0	11611.3	13798.6	13706.4
50°	11322.3	11755.1	12167.5	12214.4	11728.5	12151.9	14347.0	14312.6
52.5°	12220.7	13128.4	13608.0	13459.6	12353.5	12822.2	15157.9	15156.3
55°	13287.7	14564.2	15015.7	14762.6	13101.8	13695.5	16217.1	16148.4
57.5°	14393.9	15945.3	16309.3	15979.7	14037.7	14712.6	17279.5	16915.5
60°	15589.1	17134.2	17504.5	17009.2	15087.6	15726.6	17982.6	17131.1
62.5°	16371.8	17829.5	18095.1	17620.1	16028.1	16759.3	18209.1	16873.3
65°	16412.4	17367.0	17437.3	17268.6	16428.0	17656.1	17881.0	16109.3
67.5°	15296.9	15353.2	15445.3	15626.6	15573.4	17256.1	16615.5	14325.1
70°	12911.2	12161.3	12464.4	12639.4	13033.1	15348.5	14276.7	11650.4
72.5°	9872.5	8777.2	9121.0	9061.6	9880.3	12589.4	10922.3	8974.1
75°	7105.5	5985.3	6011.9	6015.0	7099.3	10049.0	7447.7	6372.8
77.5°	4829.2	4235.5	4323.0	4268.3	4751.1	7872.7	5362.0	4593.3
80°	3302.8	3287.2	3305.9	3177.8	3168.4	5088.6	3969.9	3663.7
82.5°	2449.8	2263.8	2237.3	2101.4	2427.9	3890.2	3013.8	2632.5
85°	1932.6	1253.0	1089.0	1313.9	2102.9	3579.3	1837.3	1349.9
87.5°	818.7	492.1	298.4	590.6	1168.6	2623.2	509.3	262.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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