

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: P270534

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270534
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-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA 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: 12334.3 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 129
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

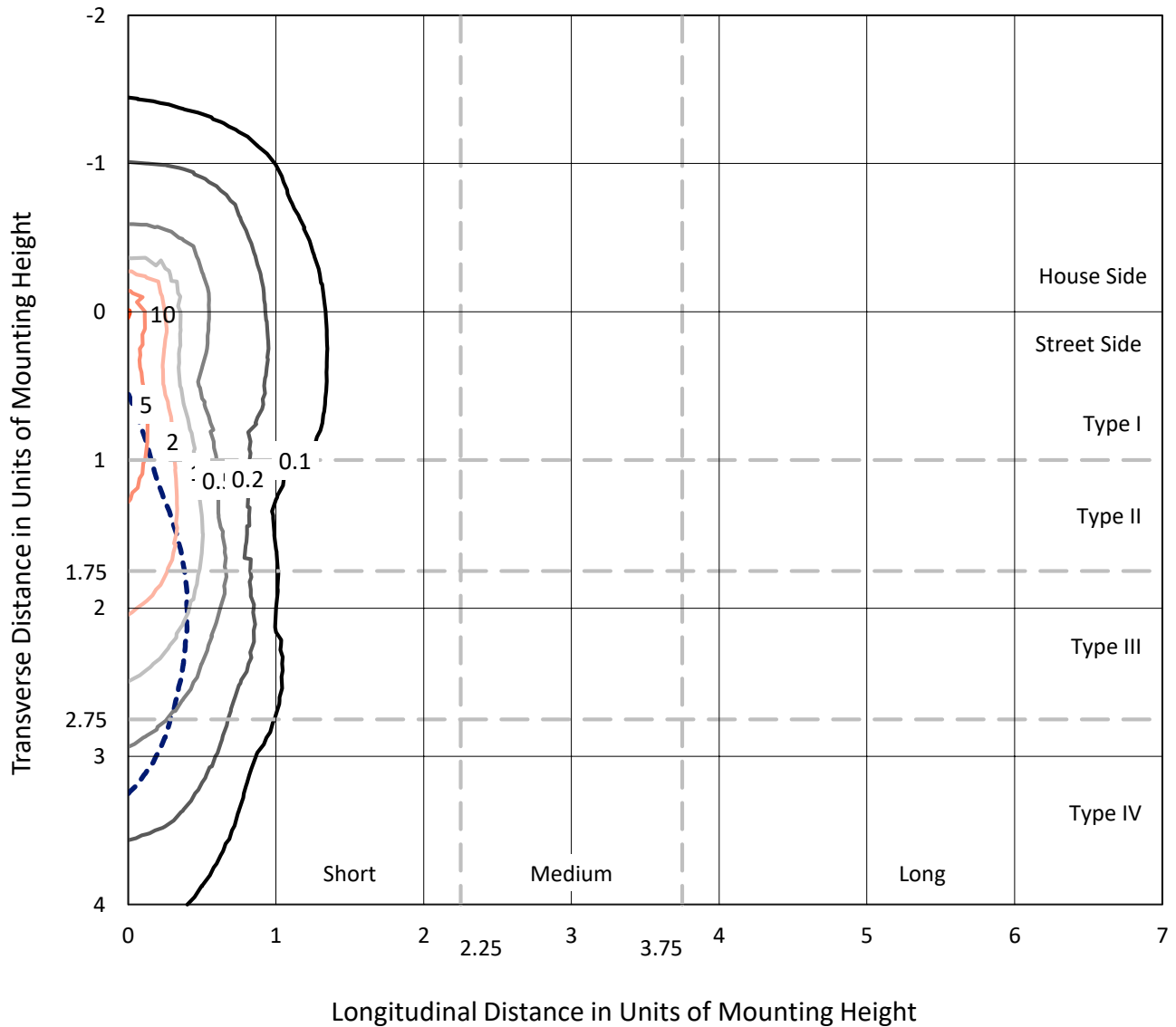


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Iso-Footcandle Lines of Horizontal Illumination

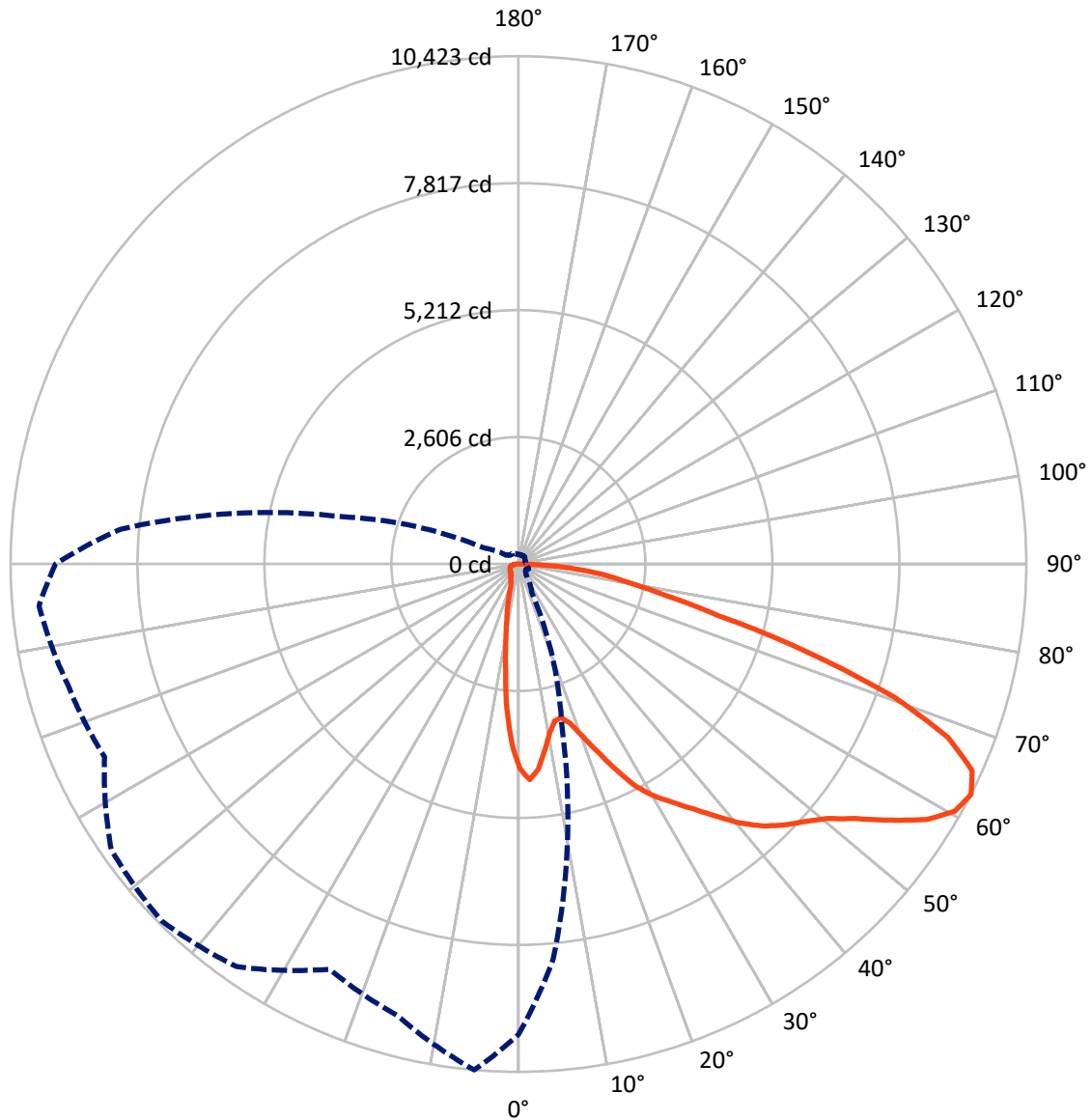
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.5 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	2185.0	0.0	2185.0
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	10149.2	0.0	10149.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	12334.3	0.0	12334.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	305.8	2.5
10°-20°	558.6	4.5
20°-30°	803.4	6.5
30°-40°	1230.4	10.0
40°-50°	1798.9	14.6
50°-60°	2617.4	21.2
60°-70°	3032.6	24.6
70°-80°	1580.9	12.8
80°-90°	406.4	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°	12334.3	100.0
0°-180°	12334.3	100.0



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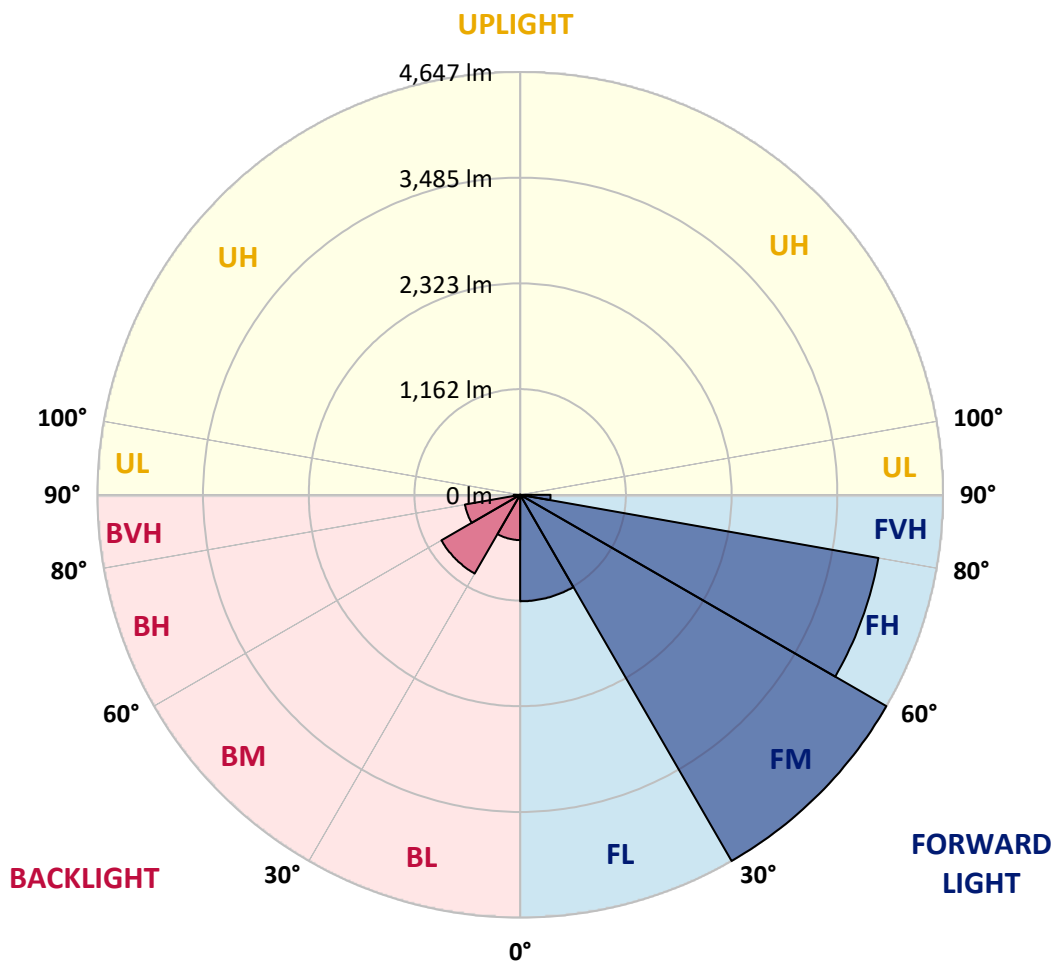
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1170.6	9.5			
FM (30°-60°)	4647.0	37.7			
FH (60°-80°)	3997.4	32.4			G2/5000
FVH (80°-90°)	334.3	2.7			G3/500
BL (0°-30°)	497.1	4.0	B1/500		
BM (30°-60°)	999.7	8.1	B1/1000		
BH (60°-80°)	616.1	5.0	B2/1000		G2/1000
BVH (80°-90°)	72.1	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0
2.5°	4340.9	4280.2	4139.7	4016.3	3862.5	3747.1	3606.8	3532.4	3478.0	3441.2	3411.8
5°	4054.8	3908.0	3639.8	3404.5	3150.6	2967.3	2752.6	2635.4	2563.0	2523.7	2505.8
7.5°	3630.1	3435.8	3088.9	2773.2	2455.7	2226.8	2064.0	1890.6	1798.4	1738.5	1718.8
10°	3258.8	3039.8	2625.7	2270.6	2025.6	1862.8	1723.3	1564.0	1446.1	1343.2	1304.8
12.5°	3043.3	2788.3	2316.2	1995.1	1789.6	1615.2	1467.6	1295.8	1171.5	1064.2	1023.1
15°	2997.7	2713.3	2186.6	1819.8	1567.7	1357.6	1180.5	993.5	872.0	783.4	754.8
17.5°	3135.4	2784.8	2131.9	1659.8	1355.7	1099.0	880.9	680.6	579.4	531.2	519.6
20°	3418.9	2942.3	2106.0	1515.8	1150.1	846.1	609.1	462.4	412.3	397.9	397.1
22.5°	3791.8	3198.1	2134.7	1397.9	957.0	624.2	446.3	380.1	359.5	351.4	351.4
25°	4213.1	3544.2	2210.6	1307.5	786.9	485.7	384.6	348.8	331.7	323.7	324.6
27.5°	4728.1	3965.3	2314.5	1224.3	665.4	425.6	359.5	329.0	312.2	304.0	305.0
30°	5116.2	4327.6	2403.9	1148.3	602.8	401.5	346.0	317.6	298.6	287.1	286.2
32.5°	5479.4	4646.8	2476.3	1093.7	567.0	358.7	313.0	291.5	275.4	262.0	259.3
35°	5880.9	4947.2	2510.4	1091.9	543.7	323.7	286.2	260.2	244.2	229.0	226.3
37.5°	6336.1	5314.8	2538.9	1102.7	531.2	301.4	273.7	248.7	235.1	219.9	216.4
40°	6810.1	5674.4	2561.2	1111.7	529.5	286.2	263.8	241.5	228.0	211.9	208.3
42.5°	7217.1	5992.8	2591.7	1108.0	517.0	283.4	257.5	235.1	222.7	206.6	202.1
45°	7542.4	6245.7	2639.1	1107.2	498.1	289.8	255.7	233.4	218.2	201.2	197.6
47.5°	7845.6	6531.0	2739.2	1103.6	477.5	287.9	265.5	231.7	216.4	199.5	196.8
50°	8192.7	6914.8	2910.1	1076.8	449.0	275.4	283.4	229.8	211.9	196.8	194.0
52.5°	8675.7	7476.4	3163.1	1028.5	409.5	262.0	286.2	229.0	204.9	191.3	187.7
55°	9243.5	8078.2	3435.8	958.8	357.7	238.8	271.8	225.4	197.6	183.3	178.0
57.5°	9682.7	8522.7	3626.4	858.5	306.7	225.4	242.4	217.3	188.7	174.5	169.9
60°	9806.0	8542.3	3660.4	738.6	280.8	216.4	208.3	237.1	181.5	166.4	161.9
62.5°	9658.4	8151.6	3438.6	654.7	271.8	207.5	189.6	226.3	174.5	159.2	154.7
65°	9221.1	7491.5	2942.3	642.1	280.8	199.5	179.8	180.6	167.3	152.1	147.5
67.5°	8199.9	6520.3	2318.0	650.2	291.5	191.3	172.7	164.6	159.2	145.7	140.4
70°	6668.7	5249.5	1826.2	664.4	301.4	180.6	163.6	153.8	149.4	135.0	132.4
72.5°	5136.9	4201.5	1440.7	654.7	311.3	169.9	151.2	143.1	137.7	124.3	121.6
75°	3647.8	3338.5	1058.8	561.6	285.3	154.7	136.8	129.6	125.3	110.9	110.0
77.5°	2629.2	2500.4	736.9	422.2	225.4	136.0	120.7	114.4	111.7	95.7	95.7
80°	2097.2	1903.1	440.9	275.4	164.6	112.6	101.1	98.4	95.7	79.6	80.5
82.5°	1506.8	1320.0	281.7	171.7	120.7	85.9	78.7	77.9	73.3	59.0	59.0
85°	772.7	674.3	180.6	115.3	85.0	55.4	51.8	50.0	47.4	36.7	36.7
87.5°	150.2	206.6	100.3	56.4	41.1	19.7	19.7	17.0	19.7	13.5	14.4
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°	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0
2.5°	3468.0	3450.2	3437.8	3431.4	3521.7	3559.4	3602.3	3663.9	3706.0	3688.1	3745.4
5°	2590.0	2602.4	2631.0	2675.7	2801.9	2861.8	2900.2	2951.2	2987.9	2951.2	3011.9
7.5°	1770.6	1789.6	1850.2	1942.4	2094.5	2161.5	2174.9	2175.9	2167.8	2107.9	2149.0
10°	1303.9	1266.3	1279.7	1345.9	1481.8	1541.9	1548.0	1531.9	1529.3	1505.1	1551.6
12.5°	1010.6	958.8	928.3	939.0	1041.0	1090.2	1098.2	1107.2	1143.8	1155.4	1212.7
15°	753.9	727.1	704.7	694.8	761.9	800.4	804.9	826.4	864.8	875.5	924.7
17.5°	530.3	537.5	549.1	553.5	601.9	626.8	619.7	619.7	625.9	623.3	651.0
20°	405.1	419.4	441.7	463.3	507.1	521.3	503.5	481.1	466.8	459.7	466.0
22.5°	357.7	367.5	381.9	409.5	446.3	453.5	430.2	412.3	398.8	391.8	392.6
25°	331.7	341.6	353.3	375.6	406.9	410.4	389.1	377.4	366.7	359.5	357.7
27.5°	309.5	315.7	322.9	337.1	369.4	371.1	356.8	349.7	342.6	337.1	335.3
30°	288.9	291.5	294.3	308.6	332.7	335.3	328.2	324.6	322.0	318.4	318.4
32.5°	262.0	265.5	270.1	282.5	305.9	309.5	305.0	302.3	297.8	296.0	293.3
35°	229.8	238.8	248.7	263.8	288.9	290.6	285.3	277.2	266.4	263.8	262.0
37.5°	216.4	218.2	230.8	248.7	274.5	276.4	269.2	255.7	247.8	248.7	250.4
40°	207.5	210.2	217.3	235.1	261.1	263.8	257.5	247.8	239.7	240.6	243.3
42.5°	200.3	203.8	208.3	219.9	246.0	251.3	249.5	240.6	232.5	234.3	238.0
45°	196.8	199.5	199.5	207.5	232.5	240.6	241.5	234.3	228.0	229.8	234.3
47.5°	194.9	194.9	192.2	198.5	223.6	231.7	233.4	229.8	226.3	228.0	232.5
50°	192.2	188.7	185.9	191.3	216.4	223.6	225.4	222.7	224.4	228.0	230.8
52.5°	184.2	180.6	180.6	184.2	209.2	216.4	217.3	215.6	219.0	223.6	228.0
55°	174.5	174.5	175.3	178.9	205.7	211.0	210.2	208.3	211.9	217.3	221.8
57.5°	165.5	164.6	169.1	173.6	201.2	204.9	202.9	202.9	205.7	210.2	214.7
60°	160.1	155.5	159.2	166.4	196.8	200.3	197.6	196.8	201.2	204.9	208.3
62.5°	154.7	150.2	152.9	160.1	190.5	193.1	191.3	191.3	195.8	198.5	202.1
65°	146.7	144.8	146.7	153.8	185.1	185.9	185.9	186.8	190.5	192.2	195.8
67.5°	139.4	139.4	140.4	147.5	180.6	178.9	178.9	183.3	184.2	185.9	189.6
70°	130.6	132.4	132.4	141.4	177.1	170.8	171.7	175.3	177.1	178.9	179.8
72.5°	120.7	121.6	123.3	135.0	171.7	162.8	163.6	166.4	167.3	169.9	170.8
75°	110.0	110.9	113.5	128.7	168.2	154.7	152.9	154.7	156.6	158.3	157.5
77.5°	97.5	99.3	102.0	125.3	156.6	152.9	139.4	141.4	143.1	143.1	142.2
80°	82.3	85.0	89.4	119.8	132.4	147.5	124.3	125.3	126.1	126.1	124.3
82.5°	61.8	67.1	73.3	99.3	103.8	126.1	107.3	109.1	106.4	104.7	103.8
85°	40.2	44.7	53.7	68.9	75.9	99.3	88.6	89.4	84.1	83.2	83.2
87.5°	16.1	17.0	24.2	34.9	45.6	61.8	63.5	65.2	60.8	60.8	62.6
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°	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0
2.5°	3832.1	3921.6	4024.3	4129.0	4214.8	4325.7	4433.0	4547.5	4605.6	4639.7	4735.3
5°	3106.8	3229.2	3375.1	3538.8	3674.6	3907.2	4157.5	4436.5	4570.8	4703.2	4953.6
7.5°	2222.3	2342.2	2512.1	2724.0	2917.2	3223.9	3554.0	3931.3	4117.3	4331.9	4742.5
10°	1649.9	1776.9	1930.7	2110.6	2301.1	2620.3	2990.5	3414.5	3619.2	3861.5	4328.5
12.5°	1337.8	1486.3	1645.5	1806.5	1970.2	2184.8	2572.8	3044.1	3264.3	3508.3	3976.1
15°	1043.7	1202.8	1374.5	1549.8	1712.6	1952.2	2348.3	2905.6	3156.9	3393.0	3775.8
17.5°	738.6	889.0	1082.1	1294.9	1531.0	1814.5	2300.1	2966.5	3271.4	3518.2	3774.9
20°	503.5	607.3	800.4	1052.6	1344.1	1703.6	2318.0	3180.1	3561.2	3832.1	3929.5
22.5°	402.4	451.6	582.2	838.8	1183.2	1623.1	2391.4	3473.4	3976.9	4307.0	4211.3
25°	365.8	393.5	461.5	662.7	1040.1	1569.5	2534.5	3860.6	4442.8	4777.4	4550.3
27.5°	343.4	367.5	411.3	544.6	916.7	1534.7	2715.9	4316.7	4967.8	5242.4	4903.5
30°	329.0	353.3	393.5	489.1	823.7	1482.7	2875.1	4733.4	5387.2	5565.2	5093.8
32.5°	301.4	320.2	353.3	438.3	753.9	1421.9	3012.8	5106.4	5783.5	5842.4	5322.8
35°	272.7	292.5	325.5	397.1	712.7	1374.5	3085.4	5437.4	6176.0	6119.8	5550.0
37.5°	262.0	278.1	308.6	367.5	690.3	1343.2	3113.0	5762.8	6597.2	6426.5	5708.3
40°	254.8	269.2	296.0	347.9	684.1	1313.7	3106.8	6072.4	7005.9	6743.9	5832.6
42.5°	249.5	262.0	287.1	334.4	667.1	1286.1	3086.2	6339.7	7333.3	7017.6	5951.6
45°	245.1	258.4	283.4	341.6	635.8	1255.7	3073.7	6583.9	7584.6	7248.3	6110.8
47.5°	243.3	258.4	284.5	339.7	601.9	1221.7	3118.5	6854.7	7803.7	7442.4	6322.7
50°	240.6	257.5	304.0	323.7	555.3	1179.6	3269.7	7177.6	8033.5	7660.6	6597.2
52.5°	236.1	256.6	324.6	311.3	495.4	1121.4	3514.6	7633.7	8430.6	8085.4	7003.2
55°	230.8	258.4	310.4	291.5	431.9	1046.3	3759.6	8258.8	9074.5	8770.4	7586.4
57.5°	224.4	255.7	293.3	273.7	379.2	951.6	3945.6	8771.3	9605.7	9476.8	8302.7
60°	219.9	262.0	263.8	262.9	345.2	861.2	3963.5	8738.3	9758.6	9935.7	9003.8
62.5°	214.7	267.3	240.6	254.8	328.2	777.2	3742.7	8197.2	9500.1	9876.7	9575.3
65°	207.5	233.4	228.0	247.8	328.2	732.5	3228.4	7296.7	8785.7	9318.6	9885.6
67.5°	200.3	211.9	219.0	238.0	335.3	690.3	2594.3	6154.6	7658.8	8418.0	9536.9
70°	190.5	200.3	209.2	229.0	331.7	661.0	2041.7	4933.0	6303.0	7172.2	8571.8
72.5°	181.5	188.7	197.6	215.6	331.7	647.5	1640.1	3869.7	4812.2	5544.7	7100.7
75°	168.2	174.5	182.4	202.1	325.5	592.1	1231.4	3100.5	3520.8	3979.6	5602.8
77.5°	154.7	159.2	165.5	185.1	293.3	494.5	871.0	2401.2	2608.7	2862.7	4367.7
80°	137.7	141.4	145.7	165.5	243.3	383.7	567.0	1878.0	1950.5	2073.0	2873.4
82.5°	118.0	123.3	124.3	142.2	195.8	278.1	337.1	1286.9	1286.1	1465.8	2027.4
85°	96.6	99.3	101.1	111.7	144.8	185.1	221.8	703.0	626.8	878.3	1760.9
87.5°	72.5	69.8	72.5	75.1	95.7	109.1	118.9	129.6	77.9	159.2	1024.0
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0	4205.0
2.5°	4786.3	4839.1	4807.8	4770.2	4676.2	4538.5	4433.0	4340.9
5°	5127.0	5224.5	5181.6	5042.0	4798.8	4522.4	4231.8	4054.8
7.5°	5084.0	5277.3	5260.3	5027.8	4679.0	4272.1	3863.4	3630.1
10°	4740.6	5011.6	5058.1	4820.2	4450.9	3995.8	3522.7	3258.8
12.5°	4366.9	4594.9	4689.7	4599.4	4251.5	3789.1	3307.1	3043.3
15°	4054.0	4169.3	4263.1	4321.2	4105.8	3715.7	3269.7	2997.7
17.5°	3822.3	3799.9	3878.6	4018.1	4027.0	3813.2	3439.5	3135.4
20°	3710.4	3535.2	3580.7	3776.7	4005.5	4061.0	3778.5	3418.9
22.5°	3704.3	3430.5	3439.5	3650.5	4067.3	4399.1	4201.5	3791.8
25°	3800.8	3418.9	3426.9	3637.1	4176.4	4739.7	4690.6	4213.1
27.5°	3965.3	3469.0	3463.7	3696.2	4322.1	5024.2	5184.3	4728.1
30°	4143.3	3541.4	3528.1	3790.9	4465.3	5199.5	5534.8	5116.2
32.5°	4365.0	3670.2	3623.8	3929.5	4606.6	5367.6	5834.4	5479.4
35°	4576.1	3858.8	3791.8	4128.2	4757.7	5554.5	6169.7	5880.9
37.5°	4791.6	4140.6	4103.1	4414.4	4971.4	5757.4	6553.5	6336.1
40°	5068.0	4541.2	4523.3	4830.1	5256.7	5979.3	6983.7	6810.1
42.5°	5365.8	4967.0	4951.7	5307.6	5610.9	6202.0	7352.1	7217.1
45°	5668.9	5483.0	5486.6	5817.5	5983.8	6412.1	7641.8	7542.4
47.5°	6026.6	6047.3	6175.2	6345.9	6346.9	6646.4	7898.4	7845.6
50°	6481.0	6728.8	6964.7	6991.7	6713.6	6955.8	8212.3	8192.7
52.5°	6995.2	7514.9	7789.4	7704.5	7071.3	7339.5	8676.5	8675.7
55°	7605.9	8336.7	8595.2	8450.3	7499.6	7839.5	9282.8	9243.5
57.5°	8239.2	9127.1	9335.5	9146.9	8035.2	8421.6	9891.0	9682.7
60°	8923.4	9807.8	10019.8	9736.3	8636.2	9002.0	10293.4	9806.0
62.5°	9371.4	10205.7	10357.7	10085.9	9174.6	9593.2	10423.0	9658.4
65°	9394.7	9941.1	9981.2	9884.7	9403.5	10106.6	10235.3	9221.1
67.5°	8756.0	8788.3	8841.1	8944.9	8914.4	9877.6	9510.9	8199.9
70°	7390.4	6961.2	7134.7	7234.9	7460.2	8785.7	8172.2	6668.7
72.5°	5651.1	5024.2	5220.9	5187.0	5655.5	7206.3	6252.1	5136.9
75°	4067.3	3426.0	3441.2	3443.1	4063.8	5752.1	4263.1	3647.8
77.5°	2764.3	2424.4	2474.6	2443.2	2719.6	4506.3	3069.1	2629.2
80°	1890.6	1881.6	1892.3	1819.0	1813.7	2912.8	2272.4	2097.2
82.5°	1402.3	1295.8	1280.7	1202.8	1389.8	2226.8	1725.1	1506.8
85°	1106.3	717.2	623.3	752.2	1203.6	2048.9	1051.6	772.7
87.5°	468.6	281.7	170.8	338.0	669.0	1501.5	291.5	150.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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