

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: P195754

Luminaire Tested: **NAV-AF-04-D-UNV-SLR-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195754
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-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 800mA 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: 17410 lumens
Efficiency: N/A
Efficacy: 101.8 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): 171
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

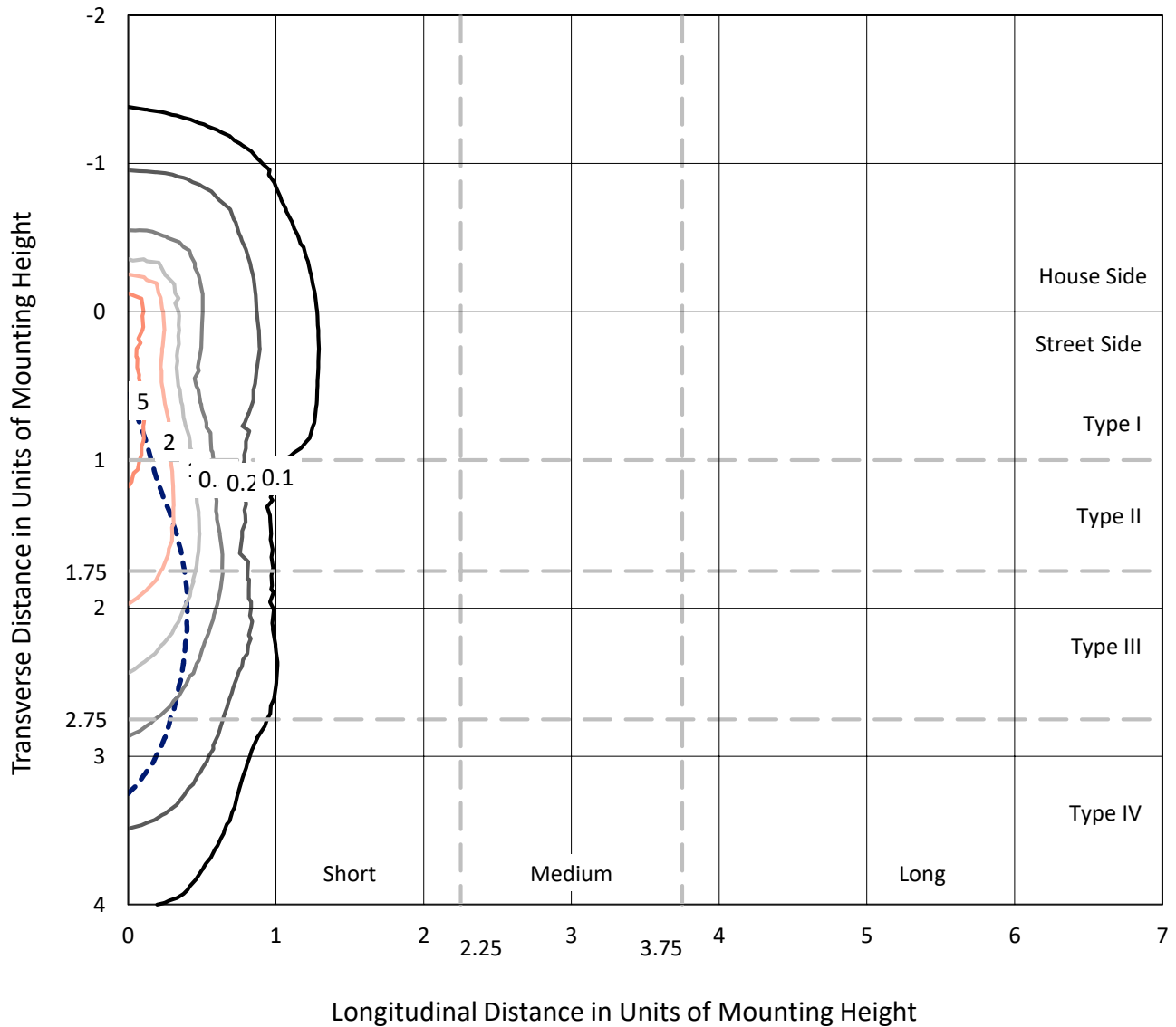


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

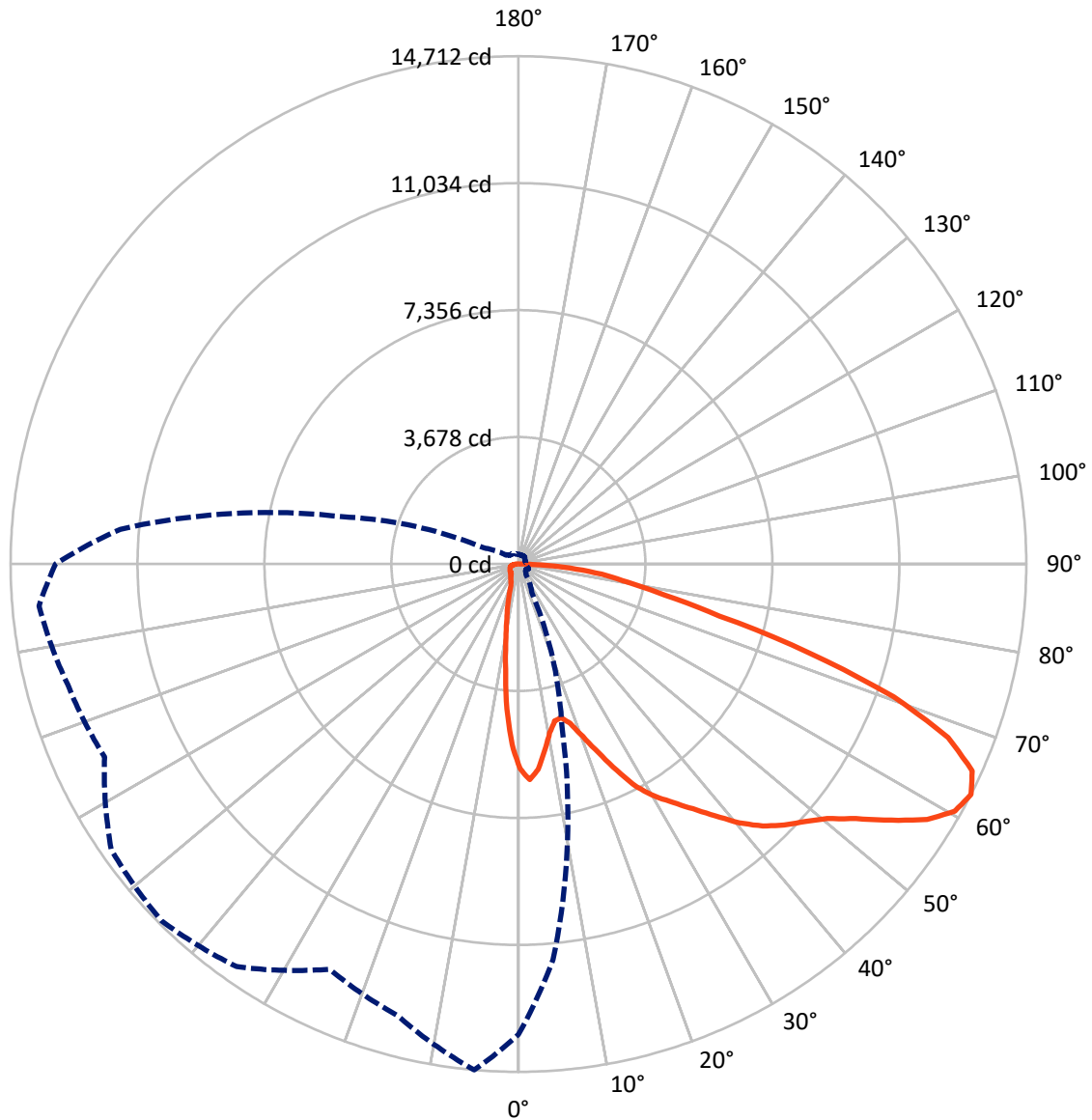


Based on 25 foot mounting height. Maximum calculated value = 9.5 fc
 Type IV - Short - Non-Cutoff

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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	3084.2	0.0	3084.2
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	14325.8	0.0	14325.8
	% Fixture	82.3	0.0	82.3
Total	Lumens	17410.0	0.0	17410.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	431.6	2.5
10°-20°	788.4	4.5
20°-30°	1133.9	6.5
30°-40°	1736.7	10.0
40°-50°	2539.2	14.6
50°-60°	3694.5	21.2
60°-70°	4280.6	24.6
70°-80°	2231.4	12.8
80°-90°	573.6	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°	17410.0	100.0
0°-180°	17410.0	100.0

Coefficient of Utilization



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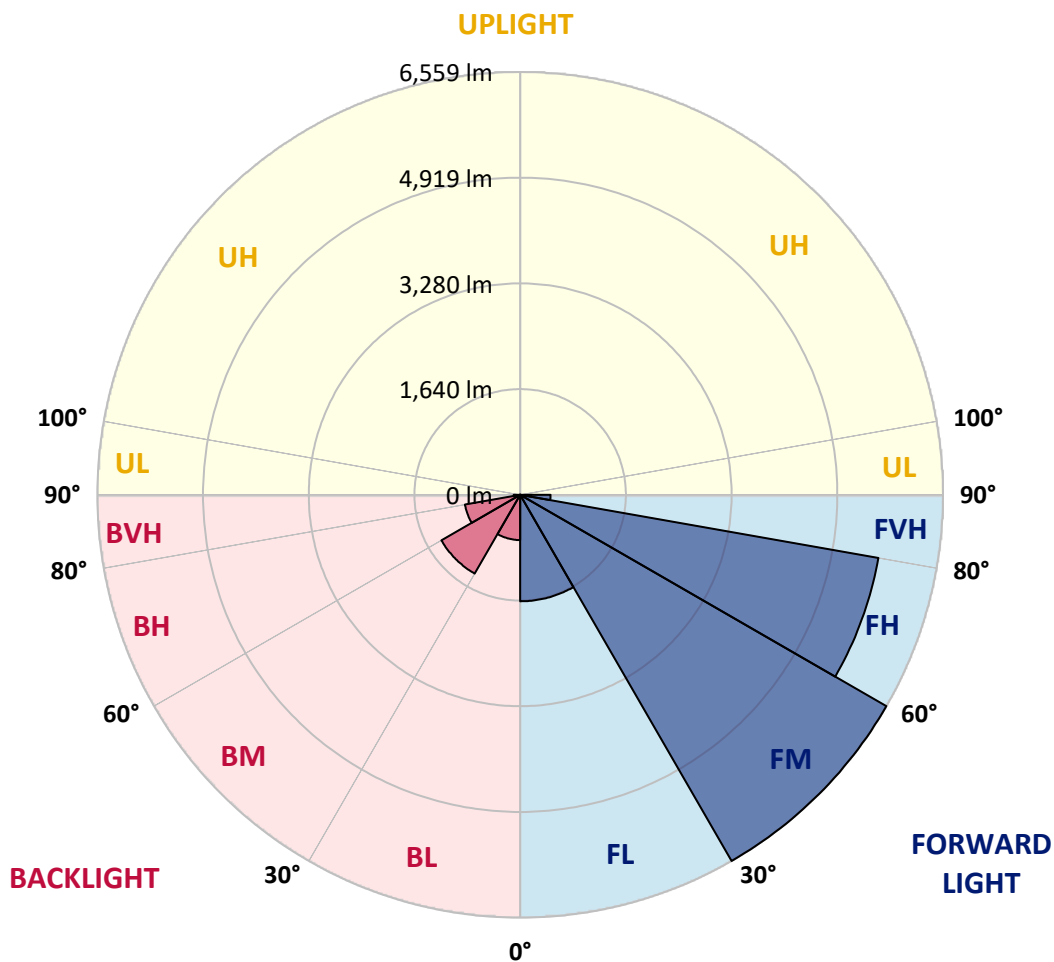
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1652.3	9.5			
FM	(30°-60°)	6559.3	37.7			
FH	(60°-80°)	5642.3	32.4			G3/7500
FVH	(80°-90°)	471.9	2.7			G3/500
BL	(0°-30°)	701.7	4.0	B2/1000		
BM	(30°-60°)	1411.1	8.1	B2/2500		
BH	(60°-80°)	869.7	5.0	B2/1000		G2/1000
BVH	(80°-90°)	101.7	0.6			G2/225
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°	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4
2.5°	6127.3	6041.5	5843.3	5669.1	5451.9	5289.1	5090.9	4986.2	4909.2	4857.4	4815.7
5°	5723.3	5516.3	5137.6	4805.6	4447.1	4188.4	3885.4	3720.0	3617.8	3562.3	3537.0
7.5°	5123.7	4849.8	4360.0	3914.4	3466.3	3143.2	2913.4	2668.5	2538.5	2453.9	2426.2
10°	4599.9	4290.6	3706.2	3205.0	2859.1	2629.4	2432.5	2207.8	2041.2	1896.0	1841.7
12.5°	4295.7	3935.9	3269.4	2816.2	2525.9	2279.7	2071.5	1829.1	1653.6	1502.2	1444.1
15°	4231.3	3829.9	3086.4	2568.8	2212.8	1916.2	1666.3	1402.4	1230.8	1105.8	1065.4
17.5°	4425.7	3930.9	3009.4	2342.9	1913.7	1551.4	1243.4	960.6	818.0	749.8	733.4
20°	4825.8	4153.0	2972.8	2139.6	1623.3	1194.2	859.6	652.6	581.9	561.7	560.5
22.5°	5352.2	4514.0	3013.2	1973.0	1350.7	881.1	629.9	536.5	507.5	496.1	496.1
25°	5946.8	5002.6	3120.4	1845.5	1110.8	685.4	542.8	492.3	468.3	457.0	458.2
27.5°	6673.9	5597.1	3266.9	1728.1	939.2	600.9	507.5	464.5	440.5	429.2	430.5
30°	7221.7	6108.4	3393.1	1620.8	850.8	566.8	488.5	448.1	421.6	405.2	403.9
32.5°	7734.2	6559.0	3495.4	1543.8	800.3	506.2	441.8	411.5	388.8	369.9	366.1
35°	8301.0	6983.1	3543.3	1541.3	767.5	457.0	403.9	367.3	344.6	323.2	319.4
37.5°	8943.5	7502.0	3583.7	1556.4	749.8	425.4	386.3	350.9	332.0	310.5	305.5
40°	9612.5	8009.4	3615.3	1569.1	747.3	403.9	372.4	340.8	321.9	299.2	294.1
42.5°	10186.9	8458.8	3658.2	1564.0	729.6	400.2	363.5	332.0	314.3	291.6	285.3
45°	10646.4	8816.0	3725.1	1562.7	703.1	409.0	361.0	329.5	308.0	284.0	279.0
47.5°	11074.3	9218.7	3866.5	1557.7	674.1	406.5	374.9	326.9	305.5	281.5	277.7
50°	11564.1	9760.2	4107.6	1519.8	633.7	388.8	400.2	324.4	299.2	277.7	273.9
52.5°	12245.7	10553.0	4464.8	1451.7	578.1	369.9	403.9	323.2	289.1	270.1	265.1
55°	13047.3	11402.5	4849.8	1353.2	504.9	337.0	383.7	318.1	279.0	258.8	251.2
57.5°	13667.1	12029.9	5118.7	1211.8	433.0	318.1	342.1	306.7	266.3	246.2	239.8
60°	13841.3	12057.7	5166.7	1042.7	396.4	305.5	294.1	334.5	256.3	234.8	228.5
62.5°	13633.0	11506.0	4853.6	924.0	383.7	292.9	267.6	319.4	246.2	224.7	218.4
65°	13015.8	10574.4	4153.0	906.3	396.4	281.5	253.7	255.0	236.1	214.6	208.3
67.5°	11574.2	9203.6	3271.9	917.7	411.5	270.1	243.6	232.3	224.7	205.8	198.2
70°	9413.1	7409.8	2577.7	937.9	425.4	255.0	231.0	217.1	210.8	190.6	186.8
72.5°	7250.8	5930.4	2033.6	924.0	439.3	239.8	213.3	202.0	194.4	175.5	171.7
75°	5149.0	4712.2	1494.6	792.7	402.7	218.4	193.1	183.0	176.7	156.5	155.3
77.5°	3711.2	3529.4	1040.1	595.8	318.1	191.9	170.4	161.6	157.8	135.1	135.1
80°	2960.1	2686.2	622.3	388.8	232.3	159.1	142.6	138.9	135.1	112.3	113.6
82.5°	2127.0	1863.2	397.6	242.4	170.4	121.2	111.1	109.8	103.5	83.3	83.3
85°	1090.6	951.8	255.0	162.8	119.9	78.3	73.2	70.7	66.9	51.8	51.8
87.5°	212.1	291.6	141.4	79.5	58.1	27.8	27.8	24.0	27.8	18.9	20.2
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°	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4
2.5°	4895.3	4870.0	4852.3	4843.5	4971.0	5024.0	5084.6	5171.7	5231.0	5205.8	5286.6
5°	3655.7	3673.3	3713.7	3776.9	3954.8	4039.4	4093.7	4165.6	4217.4	4165.6	4251.5
7.5°	2499.4	2525.9	2611.7	2741.8	2956.3	3051.0	3070.0	3071.2	3059.9	2975.3	3033.3
10°	1840.5	1787.4	1806.4	1899.8	2091.7	2176.2	2185.1	2162.3	2158.6	2124.5	2190.1
12.5°	1426.4	1353.2	1310.3	1325.4	1469.3	1538.8	1550.1	1562.7	1614.5	1630.9	1711.7
15°	1064.1	1026.3	994.7	980.8	1075.5	1129.8	1136.1	1166.4	1220.7	1235.8	1305.2
17.5°	748.6	758.7	775.1	781.4	849.5	884.9	874.8	874.8	883.6	879.8	919.0
20°	571.8	592.0	623.6	653.9	715.7	735.9	710.7	679.1	658.9	648.8	657.7
22.5°	504.9	518.8	539.0	578.1	629.9	640.0	607.2	581.9	563.0	552.9	554.2
25°	468.3	482.2	498.6	530.2	574.4	579.4	549.1	532.7	517.6	507.5	504.9
27.5°	436.8	445.6	455.7	475.9	521.3	523.9	503.7	493.6	483.5	475.9	473.4
30°	407.7	411.5	415.3	435.5	469.6	473.4	463.3	458.2	454.4	449.4	449.4
32.5°	369.9	374.9	381.2	398.9	431.7	436.8	430.5	426.7	420.4	417.8	414.0
35°	324.4	337.0	350.9	372.4	407.7	410.3	402.7	391.3	376.2	372.4	369.9
37.5°	305.5	308.0	325.7	350.9	387.5	390.1	380.0	361.0	349.7	350.9	353.4
40°	292.9	296.6	306.7	332.0	368.6	372.4	363.5	349.7	338.3	339.6	343.4
42.5°	282.8	287.8	294.1	310.5	347.1	354.7	352.2	339.6	328.2	330.7	335.8
45°	277.7	281.5	281.5	292.9	328.2	339.6	340.8	330.7	321.9	324.4	330.7
47.5°	275.2	275.2	271.4	280.2	315.6	326.9	329.5	324.4	319.4	321.9	328.2
50°	271.4	266.3	262.6	270.1	305.5	315.6	318.1	314.3	316.8	321.9	325.7
52.5°	260.0	255.0	255.0	260.0	295.4	305.5	306.7	304.2	309.3	315.6	321.9
55°	246.2	246.2	247.4	252.5	290.3	297.9	296.6	294.1	299.2	306.7	313.1
57.5°	233.5	232.3	238.6	244.9	284.0	289.1	286.5	286.5	290.3	296.6	303.0
60°	226.0	219.6	224.7	234.8	277.7	282.8	279.0	277.7	284.0	289.1	294.1
62.5°	218.4	212.1	215.9	226.0	268.9	272.7	270.1	270.1	276.4	280.2	285.3
65°	207.0	204.5	207.0	217.1	261.3	262.6	262.6	263.8	268.9	271.4	276.4
67.5°	196.9	196.9	198.2	208.3	255.0	252.5	252.5	258.8	260.0	262.6	267.6
70°	184.3	186.8	186.8	199.4	249.9	241.1	242.4	247.4	249.9	252.5	253.7
72.5°	170.4	171.7	174.2	190.6	242.4	229.7	231.0	234.8	236.1	239.8	241.1
75°	155.3	156.5	160.3	181.8	237.3	218.4	215.9	218.4	220.9	223.4	222.2
77.5°	137.6	140.1	143.9	176.7	220.9	215.9	196.9	199.4	202.0	202.0	200.7
80°	116.1	119.9	126.2	169.2	186.8	208.3	175.5	176.7	178.0	178.0	175.5
82.5°	87.1	94.7	103.5	140.1	146.4	178.0	151.5	154.0	150.2	147.7	146.4
85°	56.8	63.1	75.7	97.2	107.3	140.1	125.0	126.2	118.7	117.4	117.4
87.5°	22.7	24.0	34.1	49.2	64.4	87.1	89.6	92.1	85.8	85.8	88.4
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°	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4
2.5°	5409.0	5535.3	5680.4	5828.1	5949.3	6105.8	6257.3	6418.9	6500.9	6548.9	6684.0
5°	4385.3	4558.2	4764.0	4995.0	5186.9	5515.1	5868.5	6262.4	6451.7	6638.5	6992.0
7.5°	3136.9	3306.0	3545.8	3845.0	4117.7	4550.7	5016.4	5549.1	5811.7	6114.7	6694.1
10°	2329.0	2508.2	2725.3	2979.1	3247.9	3698.6	4221.2	4819.5	5108.6	5450.7	6109.6
12.5°	1888.4	2098.0	2322.7	2549.9	2780.9	3083.8	3631.7	4296.9	4607.5	4952.1	5612.3
15°	1473.1	1697.8	1940.2	2187.6	2417.3	2755.6	3314.8	4101.3	4456.0	4789.2	5329.5
17.5°	1042.7	1254.7	1527.4	1827.8	2161.1	2561.2	3246.7	4187.1	4617.6	4966.0	5328.2
20°	710.7	857.1	1129.8	1485.7	1897.3	2404.7	3271.9	4488.8	5026.5	5409.0	5546.6
22.5°	568.0	637.5	821.8	1184.1	1670.0	2291.1	3375.4	4902.8	5613.5	6079.3	5944.3
25°	516.3	555.4	651.4	935.4	1468.1	2215.4	3577.4	5449.4	6271.2	6743.3	6422.7
27.5°	484.7	518.8	580.7	768.8	1293.9	2166.1	3833.7	6093.2	7012.2	7399.7	6921.3
30°	464.5	498.6	555.4	690.5	1162.6	2092.9	4058.4	6681.4	7604.2	7855.4	7190.2
32.5°	425.4	451.9	498.6	618.5	1064.1	2007.1	4252.7	7207.8	8163.4	8246.7	7513.3
35°	385.0	412.8	459.5	560.5	1006.1	1940.2	4355.0	7674.9	8717.6	8638.0	7833.9
37.5°	369.9	392.6	435.5	518.8	974.5	1896.0	4394.1	8134.4	9312.1	9071.0	8057.4
40°	359.8	380.0	417.8	491.0	965.7	1854.3	4385.3	8571.1	9889.0	9519.1	8232.8
42.5°	352.2	369.9	405.2	472.1	941.7	1815.2	4356.3	8948.6	10351.0	9905.4	8400.7
45°	345.9	364.8	400.2	482.2	897.5	1772.3	4338.6	9293.2	10705.7	10231.1	8625.4
47.5°	343.4	364.8	401.4	479.7	849.5	1724.3	4401.7	9675.7	11015.0	10505.0	8924.6
50°	339.6	363.5	429.2	457.0	783.9	1665.0	4615.0	10131.4	11339.4	10813.0	9312.1
52.5°	333.3	362.3	458.2	439.3	699.3	1582.9	4960.9	10775.1	11899.9	11412.6	9885.2
55°	325.7	364.8	438.0	411.5	609.7	1476.9	5306.8	11657.5	12808.7	12379.5	10708.2
57.5°	316.8	361.0	414.0	386.3	535.2	1343.1	5569.3	12380.8	13558.5	13376.8	11719.4
60°	310.5	369.9	372.4	371.1	487.3	1215.6	5594.6	12334.1	13774.4	14024.3	12709.0
62.5°	303.0	377.4	339.6	359.8	463.3	1097.0	5282.8	11570.4	13409.6	13941.0	13515.6
65°	292.9	329.5	321.9	349.7	463.3	1033.8	4557.0	10299.2	12401.0	13153.3	13953.7
67.5°	282.8	299.2	309.3	335.8	473.4	974.5	3662.0	8687.3	10810.5	11882.2	13461.4
70°	268.9	282.8	295.4	323.2	468.3	932.9	2881.9	6962.9	8896.8	10123.8	12099.3
72.5°	256.3	266.3	279.0	304.2	468.3	913.9	2315.1	5462.0	6792.5	7826.4	10022.8
75°	237.3	246.2	257.5	285.3	459.5	835.7	1738.2	4376.5	4969.7	5617.3	7908.4
77.5°	218.4	224.7	233.5	261.3	414.0	698.1	1229.5	3389.3	3682.2	4040.7	6165.2
80°	194.4	199.4	205.8	233.5	343.4	541.5	800.3	2650.9	2753.1	2926.1	4055.8
82.5°	166.6	174.2	175.5	200.7	276.4	392.6	475.9	1816.5	1815.2	2068.9	2861.7
85°	136.3	140.1	142.6	157.8	204.5	261.3	313.1	992.2	884.9	1239.6	2485.5
87.5°	102.2	98.5	102.2	106.0	135.1	154.0	167.9	183.0	109.8	224.7	1445.4
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4	5935.4
2.5°	6755.9	6830.4	6786.2	6733.2	6600.7	6406.3	6257.3	6127.3
5°	7236.9	7374.5	7313.9	7116.9	6773.6	6383.5	5973.3	5723.3
7.5°	7176.3	7448.9	7425.0	7096.7	6604.4	6030.1	5453.2	5123.7
10°	6691.5	7074.0	7139.7	6803.9	6282.6	5640.0	4972.3	4599.9
12.5°	6163.9	6485.8	6619.6	6492.1	6001.1	5348.4	4668.0	4295.7
15°	5722.1	5884.9	6017.5	6099.5	5795.3	5244.9	4615.0	4231.3
17.5°	5395.1	5363.6	5474.7	5671.6	5684.2	5382.5	4854.9	4425.7
20°	5237.4	4989.9	5054.3	5330.8	5653.9	5732.2	5333.3	4825.8
22.5°	5228.5	4842.2	4854.9	5152.8	5741.0	6209.3	5930.4	5352.2
25°	5364.8	4825.8	4837.2	5133.8	5895.0	6690.3	6620.9	5946.8
27.5°	5597.1	4896.5	4889.0	5217.2	6100.8	7091.7	7317.7	6673.9
30°	5848.3	4998.8	4979.8	5351.0	6302.8	7339.1	7812.5	7221.7
32.5°	6161.4	5180.6	5114.9	5546.6	6502.2	7576.4	8235.4	7734.2
35°	6459.3	5446.9	5352.2	5826.9	6715.5	7840.3	8708.7	8301.0
37.5°	6763.5	5844.5	5791.5	6230.8	7017.2	8126.8	9250.3	8943.5
40°	7153.6	6410.0	6384.8	6817.8	7419.9	8439.9	9857.4	9612.5
42.5°	7573.9	7010.9	6989.5	7491.9	7919.8	8754.2	10377.5	10186.9
45°	8001.8	7739.3	7744.3	8211.4	8446.2	9050.8	10786.5	10646.4
47.5°	8506.8	8535.8	8716.3	8957.4	8958.7	9381.5	11148.8	11074.3
50°	9148.0	9497.7	9830.9	9868.8	9476.2	9818.3	11591.9	11564.1
52.5°	9873.8	10607.3	10994.8	10874.9	9981.1	10359.8	12247.0	12245.7
55°	10736.0	11767.3	12132.1	11927.6	10585.8	11065.5	13102.9	13047.3
57.5°	11629.7	12883.2	13177.3	12911.0	11341.9	11887.2	13961.2	13667.1
60°	12595.4	13843.8	14143.0	13742.8	12190.2	12706.5	14529.3	13841.3
62.5°	13227.8	14405.6	14620.2	14236.4	12950.1	13540.9	14712.3	13633.0
65°	13260.6	14031.9	14088.7	13952.4	13273.3	14265.4	14447.2	13015.8
67.5°	12359.3	12404.8	12479.3	12625.7	12582.8	13942.3	13424.7	11574.2
70°	10431.8	9825.9	10070.8	10212.1	10530.3	12401.0	11535.1	9413.1
72.5°	7976.6	7091.7	7369.4	7321.4	7982.9	10171.8	8824.9	7250.8
75°	5741.0	4835.9	4857.4	4859.9	5736.0	8119.2	6017.5	5149.0
77.5°	3901.8	3422.1	3492.8	3448.7	3838.7	6360.8	4332.3	3711.2
80°	2668.5	2655.9	2671.1	2567.6	2560.0	4111.4	3207.5	2960.1
82.5°	1979.3	1829.1	1807.6	1697.8	1961.6	3143.2	2435.0	2127.0
85°	1561.5	1012.4	879.8	1061.6	1699.1	2892.0	1484.5	1090.6
87.5°	661.5	397.6	241.1	477.2	944.2	2119.4	411.5	212.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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