

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: P270615

Luminaire Tested: **NAV-AF-05-D-UNV-SLR-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270615
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-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 18642.3 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 210
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

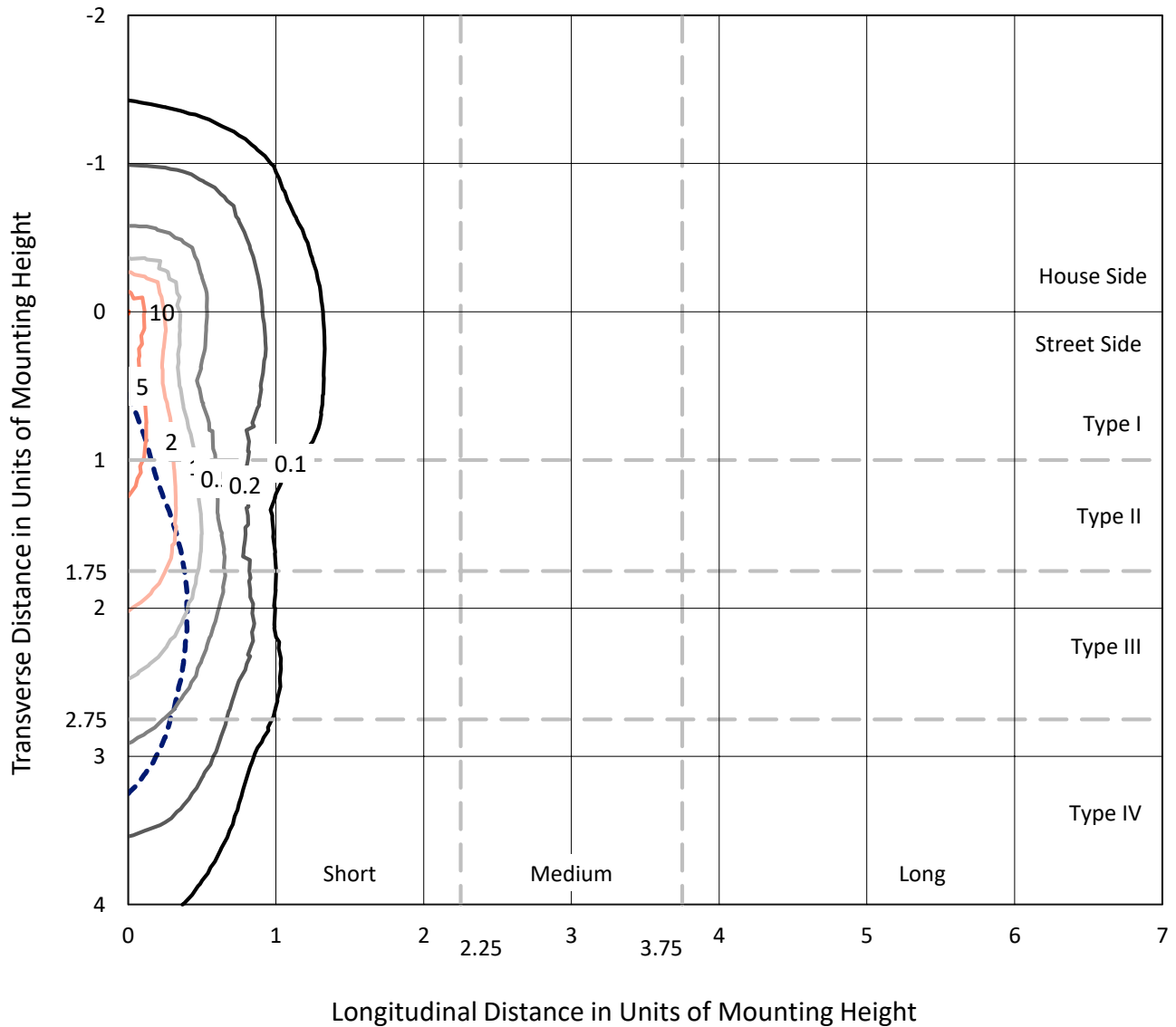


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Iso-Footcandle Lines of Horizontal Illumination

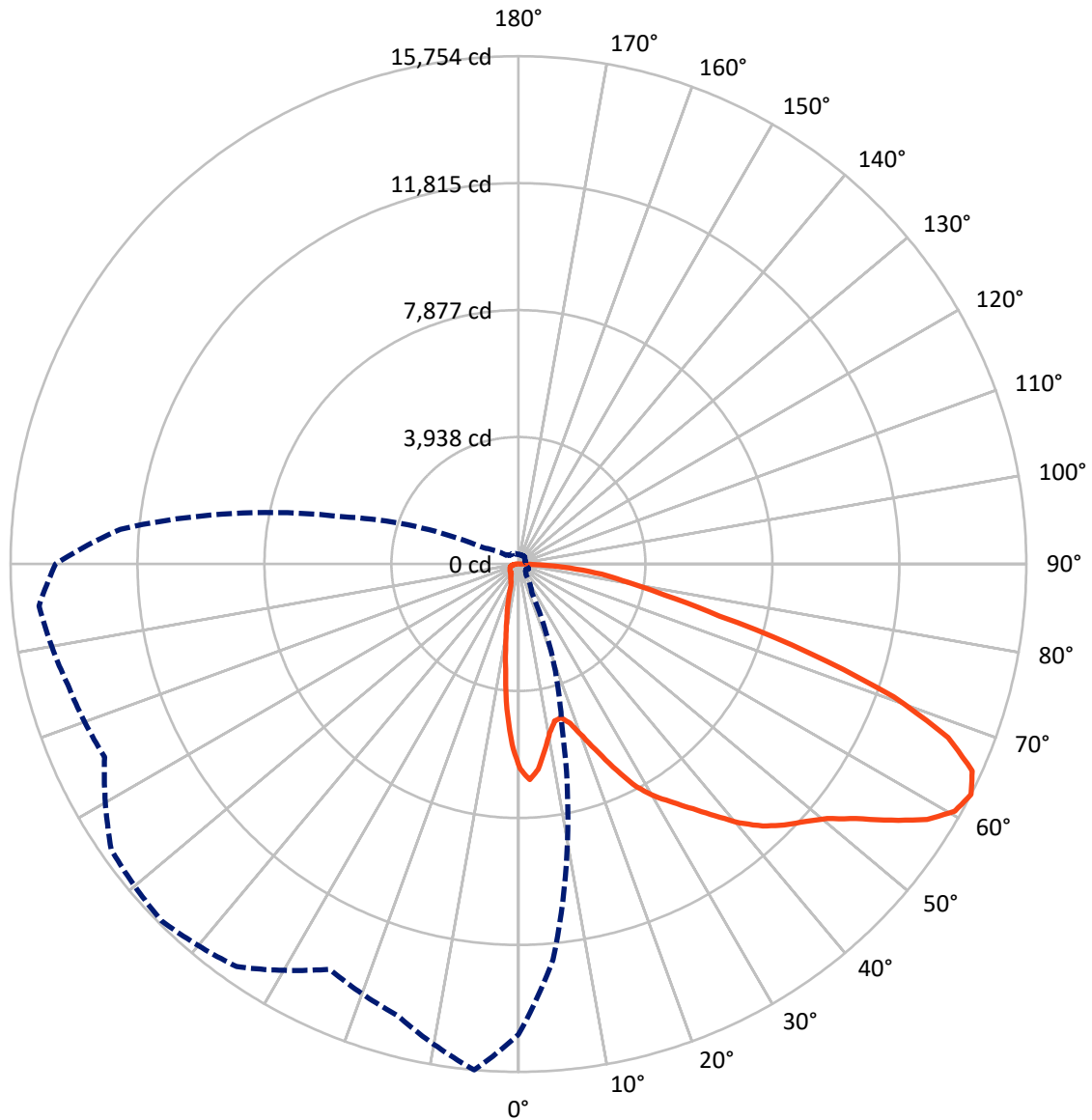
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.2 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	3302.5	0.0	3302.5
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	15339.8	0.0	15339.8
	% Fixture	82.3	0.0	82.3
Total	Lumens	18642.3	0.0	18642.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	462.2	2.5
10°-20°	844.2	4.5
20°-30°	1214.2	6.5
30°-40°	1859.7	10.0
40°-50°	2718.9	14.6
50°-60°	3956.0	21.2
60°-70°	4583.6	24.6
70°-80°	2389.3	12.8
80°-90°	614.2	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°	18642.3	100.0
0°-180°	18642.3	100.0



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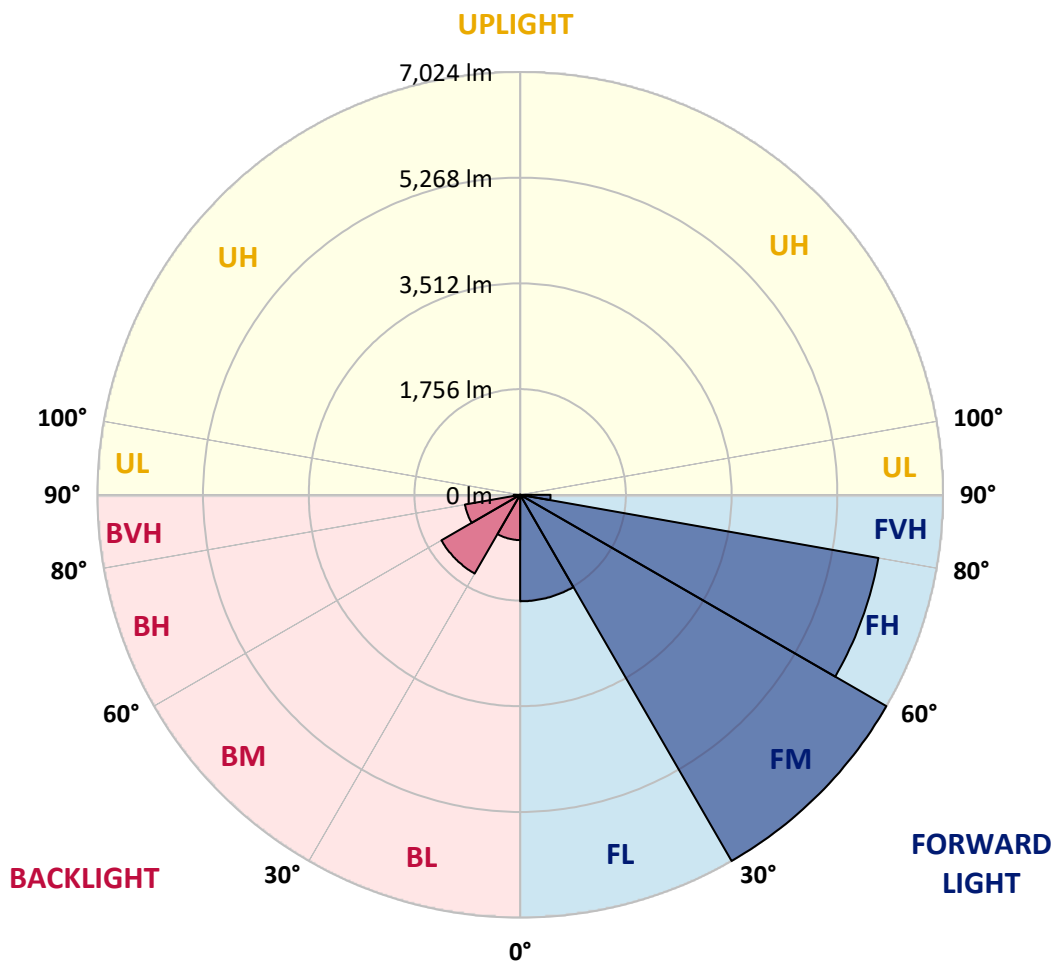
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1769.2	9.5			
FM	(30°-60°)	7023.5	37.7			
FH	(60°-80°)	6041.7	32.4			G3/7500
FVH	(80°-90°)	505.3	2.7			G4/750
BL	(0°-30°)	751.4	4.0	B2/1000		
BM	(30°-60°)	1511.0	8.1	B2/2500		
BH	(60°-80°)	931.2	5.0	B2/1000		G2/1000
BVH	(80°-90°)	108.9	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	6561.0	6469.1	6256.9	6070.3	5837.8	5663.5	5451.3	5339.0	5256.6	5201.1	5156.6
5°	6128.4	5906.7	5501.3	5145.9	4761.9	4484.8	4160.4	3983.4	3873.9	3814.5	3787.3
7.5°	5486.4	5193.1	4668.6	4191.5	3711.6	3365.6	3119.6	2857.4	2718.2	2627.6	2597.9
10°	4925.4	4594.3	3968.5	3431.9	3061.6	2815.5	2604.6	2364.1	2185.7	2030.2	1972.0
12.5°	4599.7	4214.5	3500.9	3015.6	2704.6	2441.1	2218.1	1958.6	1770.6	1608.4	1546.3
15°	4530.8	4100.9	3304.9	2750.6	2369.5	2051.8	1784.3	1501.6	1317.9	1184.1	1140.8
17.5°	4738.9	4209.1	3222.4	2508.6	2049.2	1661.1	1331.4	1028.6	875.8	802.8	785.3
20°	5167.4	4447.0	3183.1	2291.0	1738.2	1278.6	920.5	698.8	623.2	601.4	600.2
22.5°	5731.0	4833.5	3226.4	2112.6	1446.4	943.5	674.4	574.5	543.4	531.2	531.2
25°	6367.6	5356.7	3341.3	1976.1	1189.4	733.9	581.3	527.1	501.4	489.2	490.7
27.5°	7146.2	5993.3	3498.1	1850.4	1005.7	643.4	543.4	497.4	471.7	459.6	460.9
30°	7732.9	6540.6	3633.3	1735.5	911.1	606.9	523.2	479.9	451.5	433.9	432.5
32.5°	8281.7	7023.3	3742.8	1653.2	857.0	541.9	473.0	440.7	416.4	396.1	392.0
35°	8888.5	7477.4	3794.1	1650.4	821.8	489.2	432.5	393.4	369.1	346.0	342.0
37.5°	9576.6	8033.0	3837.4	1666.5	802.8	455.5	413.6	375.9	355.5	332.6	327.2
40°	10292.9	8576.3	3871.2	1680.1	800.2	432.5	398.8	364.9	344.7	320.3	314.9
42.5°	10907.8	9057.5	3917.1	1674.7	781.3	428.5	389.2	355.5	336.5	312.3	305.5
45°	11399.9	9440.0	3988.7	1673.4	752.9	438.0	386.6	352.8	329.8	304.2	298.7
47.5°	11858.2	9871.1	4140.2	1668.0	721.8	435.1	401.5	350.1	327.2	301.4	297.3
50°	12382.5	10451.1	4398.3	1627.4	678.5	416.4	428.5	347.4	320.3	297.3	293.2
52.5°	13112.5	11299.9	4780.8	1554.3	619.0	396.1	432.5	346.0	309.6	289.3	283.9
55°	13970.8	12209.6	5193.1	1449.0	540.7	360.8	411.0	340.5	298.7	277.0	269.0
57.5°	14634.5	12881.3	5481.0	1297.6	463.6	340.5	366.2	328.5	285.2	263.6	256.8
60°	14821.0	12911.1	5532.3	1116.5	424.4	327.2	314.9	358.2	274.4	251.4	244.7
62.5°	14597.9	12320.4	5197.1	989.5	411.0	313.6	286.6	342.0	263.6	240.6	233.7
65°	13937.1	11322.9	4447.0	970.4	424.4	301.4	271.6	273.1	252.8	229.7	223.0
67.5°	12393.3	9854.9	3503.5	982.7	440.7	289.3	260.9	248.7	240.6	220.4	212.2
70°	10079.3	7934.3	2760.1	1004.2	455.5	273.1	247.4	232.5	225.7	204.2	200.1
72.5°	7764.0	6350.1	2177.5	989.5	470.4	256.8	228.3	216.2	208.1	187.8	183.9
75°	5513.4	5045.8	1600.4	848.9	431.1	233.7	206.8	196.0	189.3	167.7	166.2
77.5°	3973.9	3779.3	1113.8	637.9	340.5	205.4	182.4	173.1	168.9	144.6	144.6
80°	3169.7	2876.4	666.4	416.4	248.7	170.3	152.7	148.7	144.6	120.4	121.6
82.5°	2277.6	1995.0	425.7	259.5	182.4	129.7	118.9	117.6	110.9	89.2	89.2
85°	1167.8	1019.1	273.1	174.5	128.4	83.8	78.4	75.6	71.7	55.4	55.4
87.5°	227.1	312.3	151.4	85.2	62.2	29.7	29.7	25.7	29.7	20.3	21.6
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	5241.7	5214.8	5195.7	5186.4	5322.8	5379.6	5444.4	5537.7	5601.3	5574.3	5660.8
5°	3914.5	3933.4	3976.5	4044.2	4234.8	4325.2	4383.4	4460.4	4515.9	4460.4	4552.4
7.5°	2676.3	2704.6	2796.7	2935.8	3165.5	3267.0	3287.3	3288.5	3276.4	3185.8	3248.0
10°	1970.7	1914.0	1934.2	2034.2	2239.7	2330.3	2339.7	2315.4	2311.3	2274.9	2345.1
12.5°	1527.4	1449.0	1403.1	1419.2	1573.3	1647.8	1659.9	1673.4	1728.8	1746.3	1832.8
15°	1139.5	1098.8	1065.1	1050.3	1151.5	1209.7	1216.5	1249.0	1307.0	1323.3	1397.7
17.5°	801.6	812.3	829.9	836.7	909.7	947.5	936.8	936.8	946.2	942.1	984.1
20°	612.4	633.9	667.7	700.1	766.4	788.1	761.0	727.2	705.6	694.7	704.2
22.5°	540.7	555.5	577.2	619.0	674.4	685.2	650.2	623.2	602.9	592.1	593.4
25°	501.4	516.3	534.0	567.6	615.0	620.4	588.0	570.5	554.2	543.4	540.7
27.5°	467.7	477.1	488.0	509.6	558.2	560.9	539.3	528.6	517.8	509.6	506.9
30°	436.5	440.7	444.8	466.3	502.8	506.9	496.0	490.7	486.6	481.2	481.2
32.5°	396.1	401.5	408.2	427.1	462.3	467.7	460.9	456.9	450.1	447.4	443.4
35°	347.4	360.8	375.9	398.8	436.5	439.4	431.1	419.0	402.8	398.8	396.1
37.5°	327.2	329.8	348.7	375.9	414.9	417.6	406.8	386.6	374.5	375.9	378.5
40°	313.6	317.6	328.5	355.5	394.6	398.8	389.2	374.5	362.2	363.6	367.6
42.5°	302.8	308.2	314.9	332.6	371.7	379.9	377.1	363.6	351.4	354.1	359.5
45°	297.3	301.4	301.4	313.6	351.4	363.6	364.9	354.1	344.7	347.4	354.1
47.5°	294.6	294.6	290.6	300.0	337.9	350.1	352.8	347.4	342.0	344.7	351.4
50°	290.6	285.2	281.2	289.3	327.2	337.9	340.5	336.5	339.3	344.7	348.7
52.5°	278.5	273.1	273.1	278.5	316.4	327.2	328.5	325.7	331.1	337.9	344.7
55°	263.6	263.6	264.9	270.3	310.9	319.0	317.6	314.9	320.3	328.5	335.2
57.5°	250.1	248.7	255.5	262.2	304.2	309.6	306.9	306.9	310.9	317.6	324.4
60°	242.0	235.1	240.6	251.4	297.3	302.8	298.7	297.3	304.2	309.6	314.9
62.5°	233.7	227.1	231.1	242.0	287.8	291.9	289.3	289.3	296.0	300.0	305.5
65°	221.7	218.9	221.7	232.5	279.8	281.2	281.2	282.4	287.8	290.6	296.0
67.5°	210.8	210.8	212.2	223.0	273.1	270.3	270.3	277.0	278.5	281.2	286.6
70°	197.4	200.1	200.1	213.5	267.6	258.2	259.5	264.9	267.6	270.3	271.6
72.5°	182.4	183.9	186.5	204.2	259.5	246.0	247.4	251.4	252.8	256.8	258.2
75°	166.2	167.7	171.7	194.7	254.1	233.7	231.1	233.7	236.6	239.3	238.0
77.5°	147.3	150.0	154.1	189.3	236.6	231.1	210.8	213.5	216.2	216.2	215.0
80°	124.3	128.4	135.1	181.1	200.1	223.0	187.8	189.3	190.6	190.6	187.8
82.5°	93.2	101.4	110.9	150.0	156.8	190.6	162.2	164.8	160.8	158.1	156.8
85°	60.8	67.6	81.0	104.1	115.0	150.0	133.8	135.1	127.1	125.8	125.8
87.5°	24.3	25.7	36.6	52.7	68.9	93.2	95.9	98.6	91.8	91.8	94.6
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°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	5791.9	5927.0	6082.5	6240.6	6370.4	6538.0	6700.2	6873.2	6961.1	7012.3	7157.1
5°	4695.7	4880.9	5101.1	5348.5	5554.0	5905.4	6283.9	6705.6	6908.3	7108.4	7486.8
7.5°	3358.9	3540.0	3796.9	4117.1	4409.2	4872.8	5371.5	5941.8	6223.1	6547.4	7167.8
10°	2493.9	2685.8	2918.2	3189.9	3477.8	3960.4	4519.9	5160.7	5470.1	5836.5	6542.0
12.5°	2022.1	2246.4	2487.0	2730.4	2977.7	3302.1	3888.8	4601.1	4933.6	5302.5	6009.5
15°	1577.5	1818.0	2077.5	2342.4	2588.5	2950.8	3549.5	4391.5	4771.3	5128.2	5706.8
17.5°	1116.5	1343.5	1635.5	1957.1	2314.0	2742.5	3476.5	4483.5	4944.5	5317.4	5705.3
20°	761.0	917.8	1209.7	1590.9	2031.5	2574.9	3503.5	4806.6	5382.4	5791.9	5939.2
22.5°	608.2	682.6	879.9	1267.9	1788.3	2453.4	3614.3	5249.9	6010.9	6509.6	6365.0
25°	552.8	594.8	697.4	1001.6	1571.9	2372.2	3830.6	5835.1	6715.1	7220.5	6877.2
27.5°	519.0	555.5	621.7	823.1	1385.5	2319.5	4105.1	6524.5	7508.6	7923.4	7411.1
30°	497.4	534.0	594.8	739.3	1245.0	2241.0	4345.6	7154.3	8142.3	8411.4	7699.1
32.5°	455.5	483.8	534.0	662.3	1139.5	2149.1	4553.8	7718.0	8741.1	8830.3	8045.1
35°	412.2	442.0	492.0	600.2	1077.2	2077.5	4663.2	8218.1	9334.6	9249.4	8388.5
37.5°	396.1	420.3	466.3	555.5	1043.6	2030.2	4705.1	8710.1	9971.2	9713.1	8627.6
40°	385.3	406.8	447.4	525.8	1033.9	1985.7	4695.7	9177.9	10589.0	10192.9	8815.5
42.5°	377.1	396.1	433.9	505.6	1008.3	1943.8	4664.5	9582.0	11083.6	10606.5	8995.3
45°	370.3	390.7	428.5	516.3	961.0	1897.7	4645.7	9951.0	11463.5	10955.2	9236.0
47.5°	367.6	390.7	429.7	513.7	909.7	1846.3	4713.2	10360.5	11794.6	11248.5	9556.3
50°	363.6	389.2	459.6	489.2	839.3	1782.9	4941.7	10848.4	12142.0	11578.3	9971.2
52.5°	356.8	387.9	490.7	470.4	748.7	1695.0	5312.0	11537.8	12742.1	12220.5	10584.9
55°	348.7	390.7	469.0	440.7	652.9	1581.5	5682.4	12482.6	13715.3	13255.7	11466.1
57.5°	339.3	386.6	443.4	413.6	573.1	1438.1	5963.6	13257.0	14518.1	14323.6	12548.9
60°	332.6	396.1	398.8	397.4	521.7	1301.6	5990.5	13207.2	14749.4	15017.0	13608.6
62.5°	324.4	404.1	363.6	385.3	496.0	1174.7	5656.6	12389.3	14358.7	14927.8	14472.2
65°	313.6	352.8	344.7	374.5	496.0	1107.0	4879.6	11028.2	13278.7	14084.3	14941.2
67.5°	302.8	320.3	331.1	359.5	506.9	1043.6	3921.2	9302.2	11575.6	12723.2	14414.2
70°	287.8	302.8	316.4	346.0	501.4	998.8	3085.9	7455.8	9526.5	10840.3	12955.6
72.5°	274.4	285.2	298.7	325.7	501.4	978.7	2479.0	5848.7	7273.2	8380.3	10732.2
75°	254.1	263.6	275.7	305.5	492.0	894.8	1861.3	4686.2	5321.5	6015.0	8468.1
77.5°	233.7	240.6	250.1	279.8	443.4	747.5	1316.6	3629.2	3942.8	4326.6	6601.6
80°	208.1	213.5	220.4	250.1	367.6	579.9	857.0	2838.5	2948.0	3133.2	4342.9
82.5°	178.5	186.5	187.8	215.0	296.0	420.3	509.6	1945.0	1943.8	2215.4	3064.2
85°	146.0	150.0	152.7	168.9	218.9	279.8	335.2	1062.4	947.5	1327.3	2661.4
87.5°	109.6	105.5	109.6	113.5	144.6	164.8	179.8	196.0	117.6	240.6	1547.7
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°	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5	6355.5
2.5°	7234.1	7313.8	7266.5	7209.7	7067.9	6859.6	6700.2	6561.0
5°	7749.0	7896.5	7831.6	7620.7	7253.1	6835.4	6396.0	6128.4
7.5°	7684.2	7976.2	7950.4	7599.0	7071.8	6456.8	5839.3	5486.4
10°	7165.2	7574.7	7644.9	7285.4	6727.2	6039.2	5324.3	4925.4
12.5°	6600.1	6944.8	7088.2	6951.7	6425.8	5727.1	4998.4	4599.7
15°	6127.1	6301.4	6443.4	6531.2	6205.5	5616.2	4941.7	4530.8
17.5°	5777.0	5743.3	5862.2	6073.0	6086.6	5763.4	5198.5	4738.9
20°	5608.1	5343.1	5412.1	5708.1	6054.0	6137.8	5710.7	5167.4
22.5°	5598.5	5184.9	5198.5	5517.5	6147.3	6648.9	6350.1	5731.0
25°	5744.7	5167.4	5179.5	5497.2	6312.3	7163.9	7089.5	6367.6
27.5°	5993.3	5243.0	5235.1	5586.4	6532.6	7593.6	7835.6	7146.2
30°	6262.3	5352.6	5332.2	5729.7	6748.8	7858.6	8365.5	7732.9
32.5°	6597.4	5547.3	5477.0	5939.2	6962.5	8112.7	8818.2	8281.7
35°	6916.5	5832.4	5731.0	6239.3	7190.8	8395.2	9325.1	8888.5
37.5°	7242.2	6258.2	6201.4	6671.8	7514.0	8702.1	9905.0	9576.6
40°	7659.8	6863.7	6836.7	7300.3	7945.1	9037.2	10555.2	10292.9
42.5°	8110.0	7507.1	7484.1	8022.1	8480.3	9373.8	11112.0	10907.8
45°	8568.3	8287.0	8292.4	8792.6	9044.0	9691.5	11550.0	11399.9
47.5°	9108.9	9140.0	9333.2	9591.5	9592.7	10045.6	11937.8	11858.2
50°	9795.5	10169.9	10526.8	10567.3	10147.0	10513.3	12412.3	12382.5
52.5°	10572.7	11358.0	11772.9	11644.5	10687.6	11093.1	13113.8	13112.5
55°	11495.9	12600.2	12990.7	12771.8	11335.1	11848.6	14030.3	13970.8
57.5°	12452.8	13795.1	14109.9	13824.8	12144.6	12728.7	14949.5	14634.5
60°	13487.0	14823.7	15144.0	14715.6	13053.0	13605.8	15557.7	14821.0
62.5°	14164.0	15425.2	15654.9	15244.1	13866.6	14499.4	15753.7	14597.9
65°	14199.1	15025.1	15085.9	14939.9	14212.8	15275.0	15469.8	13937.1
67.5°	13234.1	13282.8	13362.6	13519.3	13473.4	14929.1	14374.9	12393.3
70°	11170.2	10521.4	10783.6	10935.0	11275.5	13278.7	12351.4	10079.3
72.5°	8541.2	7593.6	7891.0	7839.7	8547.9	10891.7	9449.5	7764.0
75°	6147.3	5178.2	5201.1	5203.9	6141.9	8693.8	6443.4	5513.4
77.5°	4177.9	3664.4	3740.1	3692.8	4110.5	6810.9	4638.8	3973.9
80°	2857.4	2843.9	2860.2	2749.4	2741.2	4402.4	3434.6	3169.7
82.5°	2119.5	1958.6	1935.6	1818.0	2100.4	3365.6	2607.4	2277.6
85°	1672.0	1084.1	942.1	1136.7	1819.3	3096.6	1589.6	1167.8
87.5°	708.3	425.7	258.2	511.0	1011.0	2269.5	440.7	227.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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