

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: P270533

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270533
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 18720.8 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

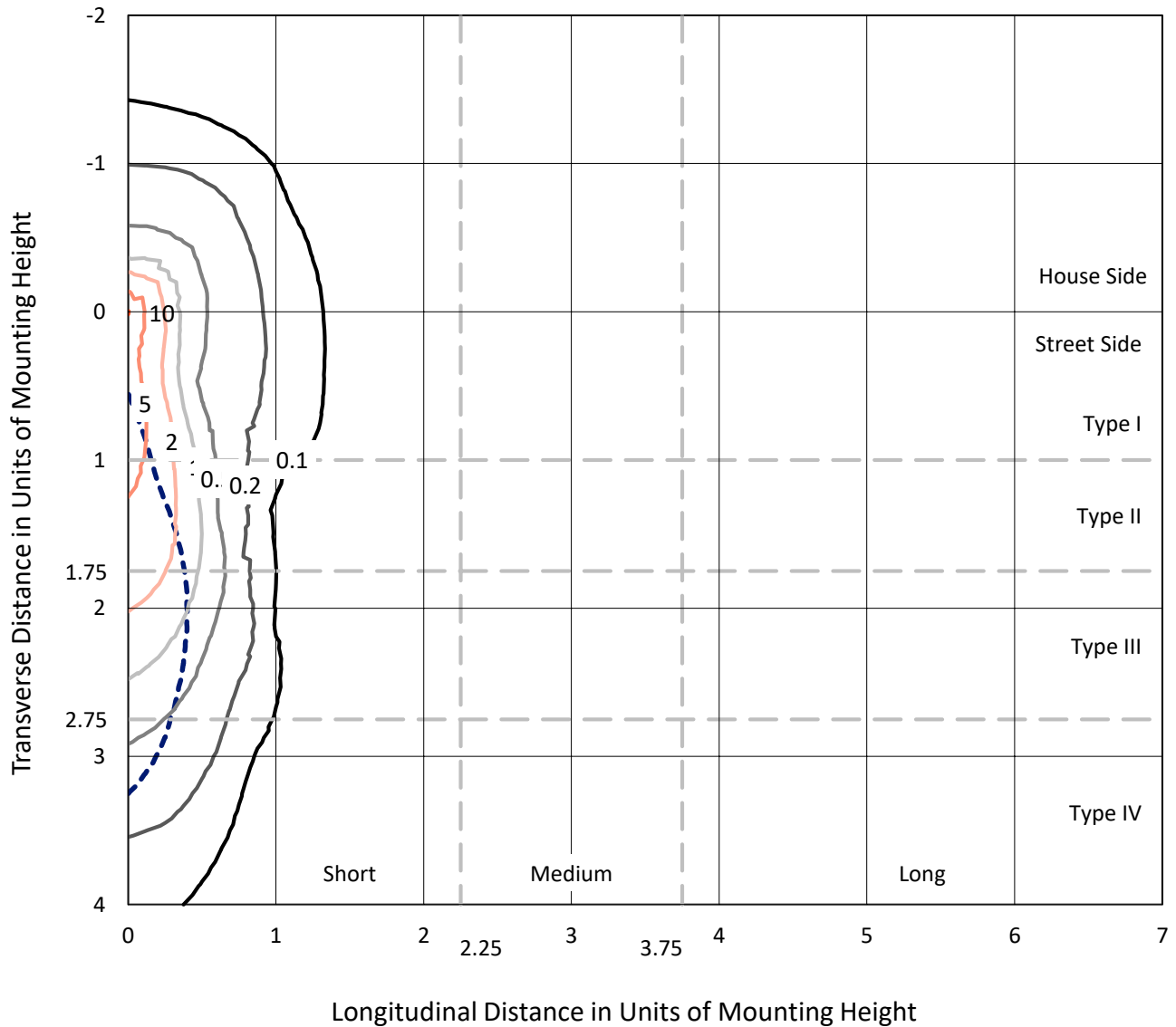
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

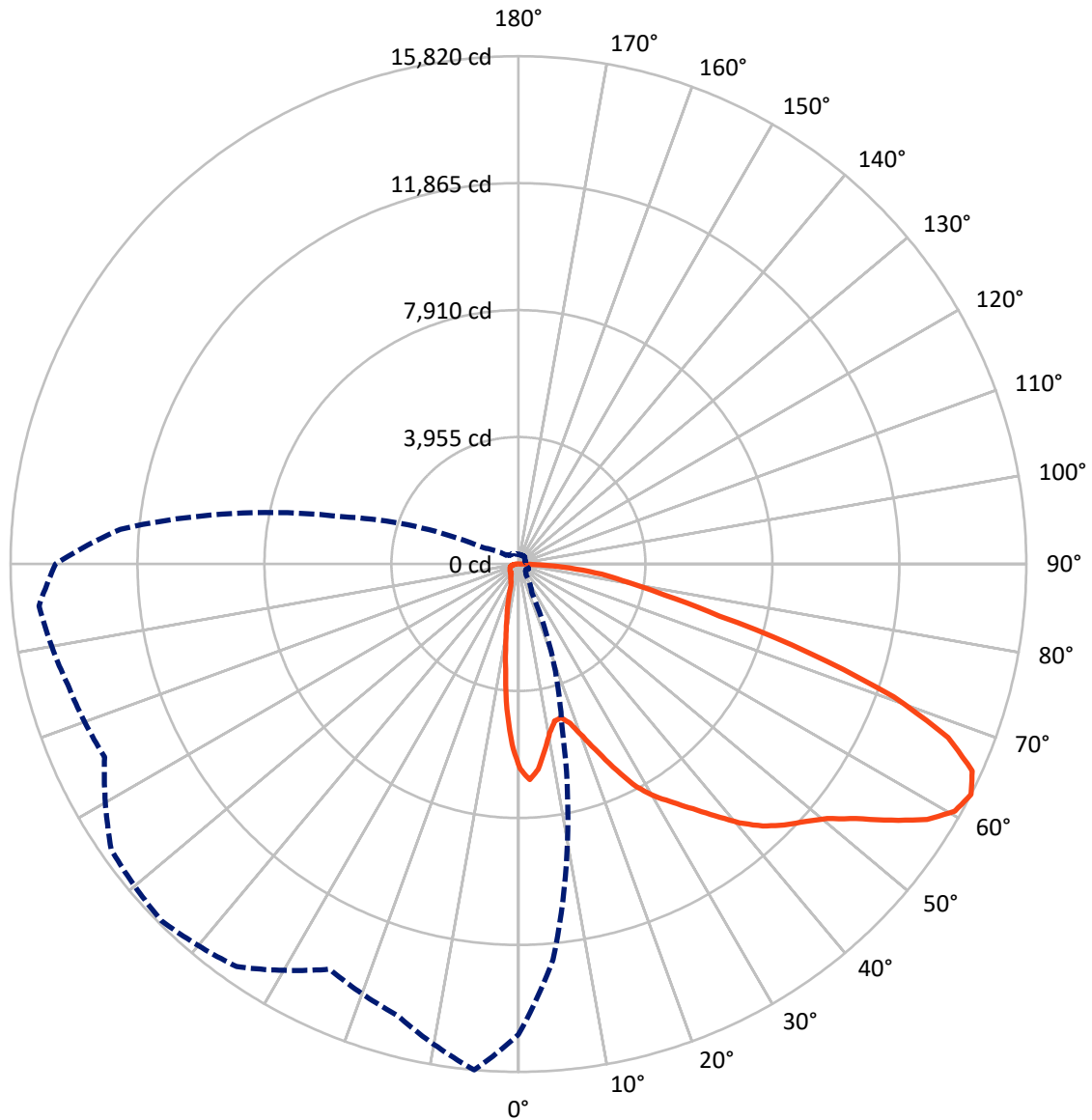
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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	3316.4	0.0	3316.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	15404.4	0.0	15404.4
	% Fixture	82.3	0.0	82.3
Total	Lumens	18720.8	0.0	18720.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	464.1	2.5
10°-20°	847.8	4.5
20°-30°	1219.3	6.5
30°-40°	1867.5	10.0
40°-50°	2730.3	14.6
50°-60°	3972.7	21.2
60°-70°	4602.9	24.6
70°-80°	2399.4	12.8
80°-90°	616.8	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°	18720.8	100.0
0°-180°	18720.8	100.0



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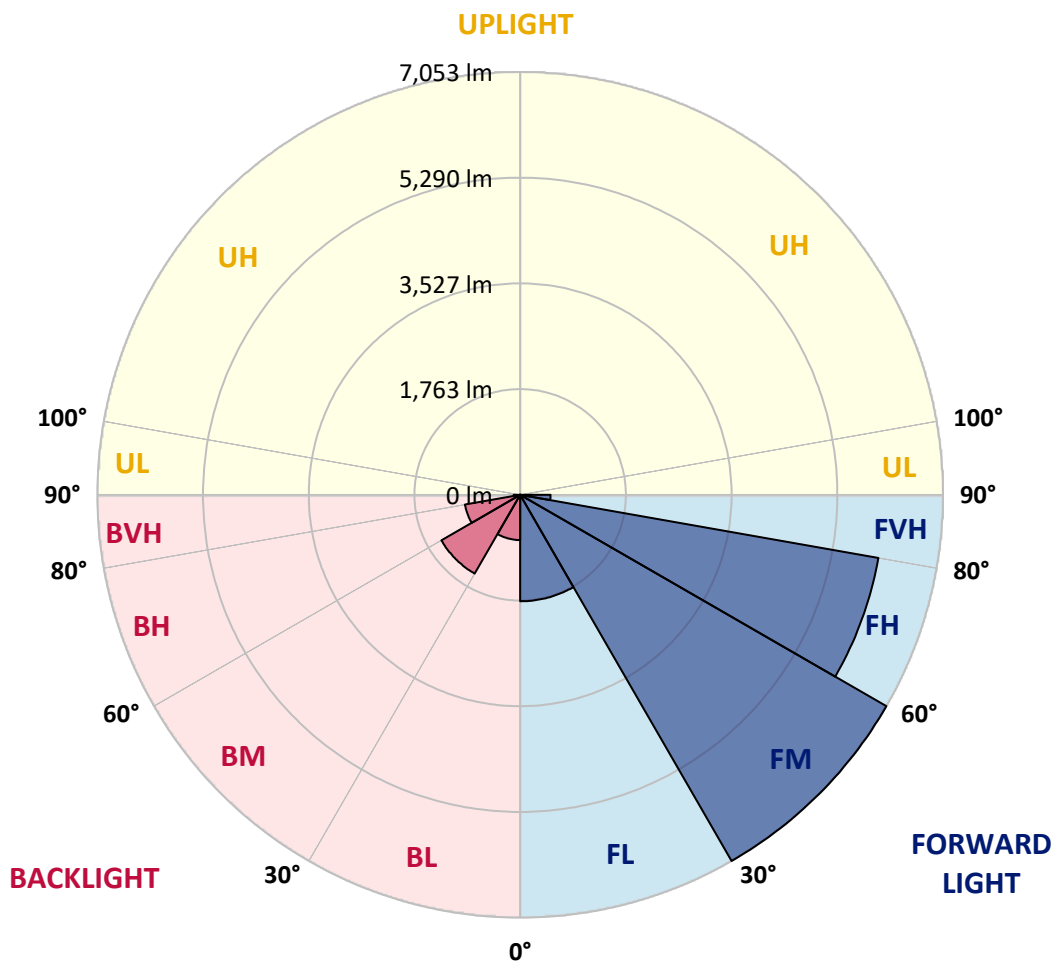
CATALOG NUMBER: NAV-AF-04-D-UNV-SLR-7027

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1776.7	9.5			
FM	(30°-60°)	7053.1	37.7			
FH	(60°-80°)	6067.1	32.4			G3/7500
FVH	(80°-90°)	507.4	2.7			G4/750
BL	(0°-30°)	754.5	4.0	B2/1000		
BM	(30°-60°)	1517.4	8.1	B2/2500		
BH	(60°-80°)	935.1	5.0	B2/1000		G2/1000
BVH	(80°-90°)	109.4	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°	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3
2.5°	6588.6	6496.4	6283.3	6095.9	5862.3	5687.3	5474.2	5361.5	5278.8	5223.1	5178.3
5°	6154.3	5931.7	5524.4	5167.5	4781.9	4503.7	4177.9	4000.2	3890.2	3830.5	3803.3
7.5°	5509.6	5215.0	4688.3	4209.2	3727.2	3379.9	3132.7	2869.5	2729.6	2638.7	2608.9
10°	4946.2	4613.6	3985.2	3446.3	3074.4	2827.3	2615.7	2374.0	2194.9	2038.8	1980.4
12.5°	4619.1	4232.3	3515.5	3028.2	2716.0	2451.4	2227.3	1966.7	1778.1	1615.2	1552.8
15°	4549.8	4118.2	3318.8	2762.2	2379.4	2060.4	1791.7	1508.1	1323.5	1189.0	1145.6
17.5°	4759.0	4226.9	3236.0	2519.2	2057.7	1668.2	1336.9	1033.0	879.6	806.3	788.6
20°	5189.1	4465.7	3196.6	2300.6	1745.5	1284.0	924.4	701.8	625.7	604.0	602.7
22.5°	5755.3	4853.9	3239.9	2121.5	1452.4	947.4	677.3	576.9	545.7	533.5	533.5
25°	6394.6	5379.2	3355.3	1984.4	1194.4	737.1	583.7	529.5	503.6	491.4	492.7
27.5°	7176.3	6018.6	3512.8	1858.2	1009.9	646.2	545.7	499.5	473.8	461.5	462.8
30°	7765.4	6568.2	3648.6	1742.8	914.8	609.5	525.2	481.9	453.4	435.7	434.3
32.5°	8316.5	7052.9	3758.5	1660.1	860.5	544.4	475.1	442.4	418.2	397.7	393.6
35°	8926.0	7508.9	3810.2	1657.4	825.3	491.4	434.3	395.0	370.6	347.5	343.4
37.5°	9616.9	8066.8	3853.5	1673.6	806.3	457.4	415.3	377.4	356.9	333.9	328.5
40°	10336.3	8612.4	3887.4	1687.1	803.5	434.3	400.5	366.5	346.1	321.8	316.3
42.5°	10953.8	9095.7	3933.6	1681.7	784.6	430.3	390.9	356.9	338.0	313.6	306.9
45°	11447.9	9479.8	4005.5	1680.4	756.1	439.8	388.2	354.3	331.1	305.5	299.9
47.5°	11908.1	9912.7	4157.5	1675.0	724.8	437.0	403.1	351.5	328.5	302.6	298.6
50°	12434.8	10495.1	4416.8	1634.2	681.4	418.2	430.3	348.8	321.8	298.6	294.6
52.5°	13167.7	11347.5	4801.0	1561.0	621.6	397.7	434.3	347.5	310.9	290.5	285.0
55°	14029.5	12261.0	5215.0	1455.1	542.9	362.5	412.6	342.1	299.9	278.3	270.1
57.5°	14696.1	12935.7	5504.1	1303.0	465.6	342.1	367.9	329.9	286.4	264.7	258.0
60°	14883.4	12965.4	5555.7	1121.2	426.2	328.5	316.3	359.7	275.5	252.5	245.6
62.5°	14659.4	12372.3	5219.1	993.5	412.6	314.9	287.7	343.4	264.7	241.6	234.8
65°	13995.8	11370.6	4465.7	974.7	426.2	302.6	272.8	274.3	253.9	230.8	223.9
67.5°	12445.6	9896.4	3518.2	986.8	442.4	290.5	261.9	249.8	241.6	221.3	213.1
70°	10121.8	7967.6	2771.7	1008.4	457.4	274.3	248.4	233.5	226.7	205.0	201.0
72.5°	7796.7	6376.9	2186.7	993.5	472.4	258.0	229.3	217.2	209.0	188.6	184.6
75°	5536.7	5067.0	1607.1	852.4	433.1	234.8	207.7	196.8	190.0	168.3	166.9
77.5°	3990.6	3795.2	1118.5	640.8	342.1	206.3	183.3	173.7	169.7	145.3	145.3
80°	3183.1	2888.5	669.1	418.2	249.8	171.0	153.4	149.3	145.3	120.8	122.2
82.5°	2287.2	2003.5	427.6	260.6	183.3	130.3	119.5	118.0	111.3	89.7	89.7
85°	1172.7	1023.4	274.3	175.1	128.9	84.1	78.7	75.9	72.0	55.7	55.7
87.5°	228.0	313.6	152.1	85.5	62.4	29.9	29.9	25.8	29.9	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°	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3
2.5°	5263.8	5236.7	5217.6	5208.2	5345.3	5402.2	5467.4	5561.0	5624.8	5597.8	5684.7
5°	3931.0	3949.8	3993.3	4061.1	4252.5	4343.6	4402.0	4479.3	4535.0	4479.3	4571.6
7.5°	2687.5	2716.0	2808.5	2948.1	3178.9	3280.7	3301.1	3302.4	3290.2	3199.4	3261.7
10°	1979.1	1922.1	1942.3	2042.8	2249.1	2340.1	2349.5	2325.2	2321.1	2284.4	2354.9
12.5°	1533.9	1455.1	1408.9	1425.3	1579.9	1654.6	1666.8	1680.4	1736.1	1753.8	1840.5
15°	1144.3	1103.6	1069.6	1054.7	1156.5	1214.9	1221.7	1254.3	1312.6	1328.9	1403.5
17.5°	804.9	815.8	833.4	840.3	913.4	951.6	940.6	940.6	950.1	946.0	988.1
20°	614.9	636.5	670.6	703.2	769.6	791.3	764.2	730.2	708.6	697.7	707.1
22.5°	542.9	557.8	579.5	621.6	677.3	688.2	652.9	625.7	605.4	594.5	595.8
25°	503.6	518.5	536.2	570.1	617.6	623.1	590.5	572.8	556.5	545.7	542.9
27.5°	469.6	479.2	490.0	511.8	560.6	563.2	541.6	530.7	519.8	511.8	509.0
30°	438.5	442.4	446.5	468.2	504.9	509.0	498.1	492.7	488.7	483.2	483.2
32.5°	397.7	403.1	409.9	428.9	464.2	469.6	462.8	458.8	451.9	449.3	445.2
35°	348.8	362.5	377.4	400.5	438.5	441.2	433.1	420.8	404.4	400.5	397.7
37.5°	328.5	331.1	350.2	377.4	416.8	419.4	408.5	388.2	376.0	377.4	380.1
40°	314.9	319.0	329.9	356.9	396.3	400.5	390.9	376.0	363.8	365.2	369.3
42.5°	304.0	309.5	316.3	333.9	373.2	381.4	378.6	365.2	352.9	355.5	361.1
45°	298.6	302.6	302.6	314.9	352.9	365.2	366.5	355.5	346.1	348.8	355.5
47.5°	295.9	295.9	291.8	301.3	339.3	351.5	354.3	348.8	343.4	346.1	352.9
50°	291.8	286.4	282.3	290.5	328.5	339.3	342.1	338.0	340.6	346.1	350.2
52.5°	279.6	274.3	274.3	279.6	317.6	328.5	329.9	327.2	332.6	339.3	346.1
55°	264.7	264.7	266.1	271.5	312.3	320.3	319.0	316.3	321.8	329.9	336.7
57.5°	251.0	249.8	256.6	263.4	305.5	310.9	308.1	308.1	312.3	319.0	325.7
60°	243.0	236.2	241.6	252.5	298.6	304.0	299.9	298.6	305.5	310.9	316.3
62.5°	234.8	228.0	232.1	243.0	289.2	293.1	290.5	290.5	297.2	301.3	306.9
65°	222.6	219.8	222.6	233.5	281.0	282.3	282.3	283.7	289.2	291.8	297.2
67.5°	211.7	211.7	213.1	223.9	274.3	271.5	271.5	278.3	279.6	282.3	287.7
70°	198.2	201.0	201.0	214.4	268.8	259.3	260.6	266.1	268.8	271.5	272.8
72.5°	183.3	184.6	187.2	205.0	260.6	247.0	248.4	252.5	253.9	258.0	259.3
75°	166.9	168.3	172.4	195.4	255.2	234.8	232.1	234.8	237.5	240.2	238.9
77.5°	148.0	150.6	154.8	190.0	237.5	232.1	211.7	214.4	217.2	217.2	215.9
80°	124.9	128.9	135.7	181.8	201.0	223.9	188.6	190.0	191.3	191.3	188.6
82.5°	93.7	101.8	111.3	150.6	157.5	191.3	163.0	165.6	161.5	158.8	157.5
85°	61.1	67.8	81.4	104.6	115.4	150.6	134.3	135.7	127.6	126.2	126.2
87.5°	24.4	25.8	36.7	52.9	69.2	93.7	96.4	99.2	92.3	92.3	95.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3
2.5°	5816.3	5952.0	6108.0	6266.9	6397.2	6565.5	6728.5	6902.1	6990.4	7042.0	7187.2
5°	4715.5	4901.4	5122.7	5371.1	5577.3	5930.3	6310.4	6733.9	6937.4	7138.3	7518.4
7.5°	3373.0	3555.0	3812.9	4134.4	4427.7	4893.2	5394.1	5966.9	6249.2	6575.1	7198.1
10°	2504.4	2697.2	2930.5	3203.4	3492.5	3977.1	4539.0	5182.4	5493.2	5861.0	6569.7
12.5°	2030.6	2256.0	2497.6	2741.8	2990.3	3316.1	3905.1	4620.4	4954.3	5325.0	6034.9
15°	1584.0	1825.6	2086.3	2352.3	2599.3	2963.1	3564.5	4410.0	4791.5	5149.9	5730.7
17.5°	1121.2	1349.3	1642.5	1965.4	2323.7	2754.1	3491.2	4502.3	4965.2	5339.9	5729.4
20°	764.2	921.7	1214.9	1597.6	2040.1	2585.9	3518.2	4826.8	5405.0	5816.3	5964.2
22.5°	610.8	685.4	883.7	1273.2	1795.8	2463.6	3629.6	5272.0	6036.3	6537.1	6391.8
25°	555.2	597.3	700.4	1005.8	1578.6	2382.1	3846.7	5859.7	6743.3	7250.9	6906.2
27.5°	521.2	557.8	624.4	826.6	1391.2	2329.2	4122.3	6552.0	7540.2	7956.7	7442.4
30°	499.5	536.2	597.3	742.4	1250.1	2250.6	4363.8	7184.5	8176.7	8446.9	7731.5
32.5°	457.4	486.0	536.2	665.1	1144.3	2158.2	4572.9	7750.4	8778.0	8867.6	8078.9
35°	413.9	443.9	494.1	602.7	1081.7	2086.3	4682.9	8252.6	9374.0	9288.4	8423.8
37.5°	397.7	422.2	468.2	557.8	1047.9	2038.8	4724.9	8746.7	10013.1	9753.9	8664.1
40°	386.8	408.5	449.3	528.1	1038.4	1994.0	4715.5	9216.4	10633.5	10235.7	8852.6
42.5°	378.6	397.7	435.7	507.6	1012.6	1951.8	4684.2	9622.3	11130.3	10651.2	9033.1
45°	371.9	392.3	430.3	518.5	965.0	1905.8	4665.3	9992.8	11511.7	11001.4	9274.8
47.5°	369.3	392.3	431.6	515.7	913.4	1854.1	4733.1	10404.1	11844.3	11295.8	9596.6
50°	365.2	390.9	461.5	491.4	842.9	1790.3	4962.4	10894.1	12193.1	11627.1	10013.1
52.5°	358.3	389.5	492.7	472.4	752.1	1702.1	5334.4	11586.3	12795.7	12271.8	10629.5
55°	350.2	392.3	471.0	442.4	655.7	1588.2	5706.4	12535.2	13773.2	13311.5	11514.5
57.5°	340.6	388.2	445.2	415.3	575.5	1444.2	5988.6	13312.9	14579.3	14383.9	12601.8
60°	333.9	397.7	400.5	399.0	523.9	1307.2	6015.8	13262.8	14811.4	15080.2	13665.8
62.5°	325.7	405.9	365.2	386.8	498.1	1179.6	5680.5	12441.5	14419.1	14990.6	14533.1
65°	314.9	354.3	346.1	376.0	498.1	1111.7	4900.1	11074.7	13334.7	14143.6	15004.2
67.5°	304.0	321.8	332.6	361.1	509.0	1047.9	3937.7	9341.4	11624.3	12776.9	14474.8
70°	289.2	304.0	317.6	347.5	503.6	1003.0	3098.9	7487.2	9566.6	10886.0	13010.2
72.5°	275.5	286.4	299.9	327.2	503.6	982.7	2489.5	5873.3	7303.8	8415.6	10777.4
75°	255.2	264.7	276.9	306.9	494.1	898.6	1869.1	4706.0	5343.8	6040.3	8503.9
77.5°	234.8	241.6	251.0	281.0	445.2	750.7	1322.0	3644.6	3959.4	4344.9	6629.3
80°	209.0	214.4	221.3	251.0	369.3	582.3	860.5	2850.4	2960.4	3146.4	4361.2
82.5°	179.2	187.2	188.6	215.9	297.2	422.2	511.8	1953.3	1951.8	2224.7	3077.1
85°	146.7	150.6	153.4	169.7	219.8	281.0	336.7	1066.8	951.6	1332.9	2672.6
87.5°	110.0	105.9	110.0	114.1	145.3	165.6	180.5	196.8	118.0	241.6	1554.2
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3	6382.3
2.5°	7264.6	7344.6	7297.1	7240.1	7097.6	6888.7	6728.5	6588.6
5°	7781.7	7929.7	7864.5	7652.8	7283.5	6864.2	6423.1	6154.3
7.5°	7716.6	8009.7	7984.0	7631.0	7101.7	6484.1	5863.7	5509.6
10°	7195.3	7606.6	7677.3	7316.2	6755.6	6064.6	5346.6	4946.2
12.5°	6628.0	6974.1	7118.0	6980.9	6452.9	5751.0	5019.5	4619.1
15°	6152.9	6328.0	6470.5	6558.7	6231.6	5639.7	4962.4	4549.8
17.5°	5801.3	5767.4	5886.9	6098.7	6112.2	5787.8	5220.4	4759.0
20°	5631.7	5365.7	5434.8	5732.2	6079.5	6163.7	5734.8	5189.1
22.5°	5622.1	5206.8	5220.4	5540.7	6173.2	6676.8	6376.9	5755.3
25°	5768.7	5189.1	5201.4	5520.4	6338.9	7193.9	7119.3	6394.6
27.5°	6018.6	5265.1	5257.1	5609.9	6560.1	7625.6	7868.7	7176.3
30°	6288.7	5375.1	5354.7	5753.9	6777.3	7891.7	8400.7	7765.4
32.5°	6625.3	5570.6	5500.1	5964.2	6991.8	8146.9	8855.4	8316.5
35°	6945.5	5856.9	5755.3	6265.6	7221.1	8430.6	9364.4	8926.0
37.5°	7272.7	6284.5	6227.5	6699.9	7545.6	8738.6	9946.8	9616.9
40°	7692.1	6892.6	6865.4	7331.1	7978.6	9075.2	10599.6	10336.3
42.5°	8144.2	7538.8	7515.7	8055.9	8516.0	9413.2	11158.8	10953.8
45°	8604.2	8322.0	8327.4	8829.6	9082.0	9732.2	11598.6	11447.9
47.5°	9147.3	9178.4	9372.6	9631.7	9633.2	10087.8	11988.2	11908.1
50°	9836.8	10212.7	10571.1	10611.8	10189.7	10557.5	12464.6	12434.8
52.5°	10617.2	11405.9	11822.6	11693.6	10732.6	11139.8	13169.1	13167.7
55°	11544.3	12653.3	13045.5	12825.6	11382.9	11898.6	14089.3	14029.5
57.5°	12505.3	13853.2	14169.4	13883.0	12195.8	12782.3	15012.4	14696.1
60°	13543.7	14886.2	15207.9	14777.6	13108.0	13663.1	15623.1	14883.4
62.5°	14223.8	15490.2	15720.9	15308.2	13925.0	14560.4	15820.1	14659.4
65°	14259.1	15088.4	15149.5	15002.9	14272.6	15339.5	15534.8	13995.8
67.5°	13289.9	13338.8	13418.8	13576.3	13530.1	14992.1	14435.5	12445.6
70°	11217.1	10565.7	10829.0	10981.1	11323.0	13334.7	12403.4	10121.8
72.5°	8577.1	7625.6	7924.3	7872.7	8583.9	10937.6	9489.2	7796.7
75°	6173.2	5200.0	5223.1	5225.8	6167.9	8730.4	6470.5	5536.7
77.5°	4195.5	3679.7	3755.9	3708.4	4127.7	6839.8	4658.4	3990.6
80°	2869.5	2855.9	2872.2	2760.9	2752.8	4420.9	3449.0	3183.1
82.5°	2128.4	1966.7	1943.8	1825.6	2109.3	3379.9	2618.3	2287.2
85°	1679.0	1088.6	946.0	1141.6	1827.1	3109.8	1596.3	1172.7
87.5°	711.3	427.6	259.3	513.1	1015.4	2279.0	442.4	228.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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