

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: P145418

Luminaire Tested: **LDRL-SL4-E01-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145418
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-E01-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (21) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2432.4 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

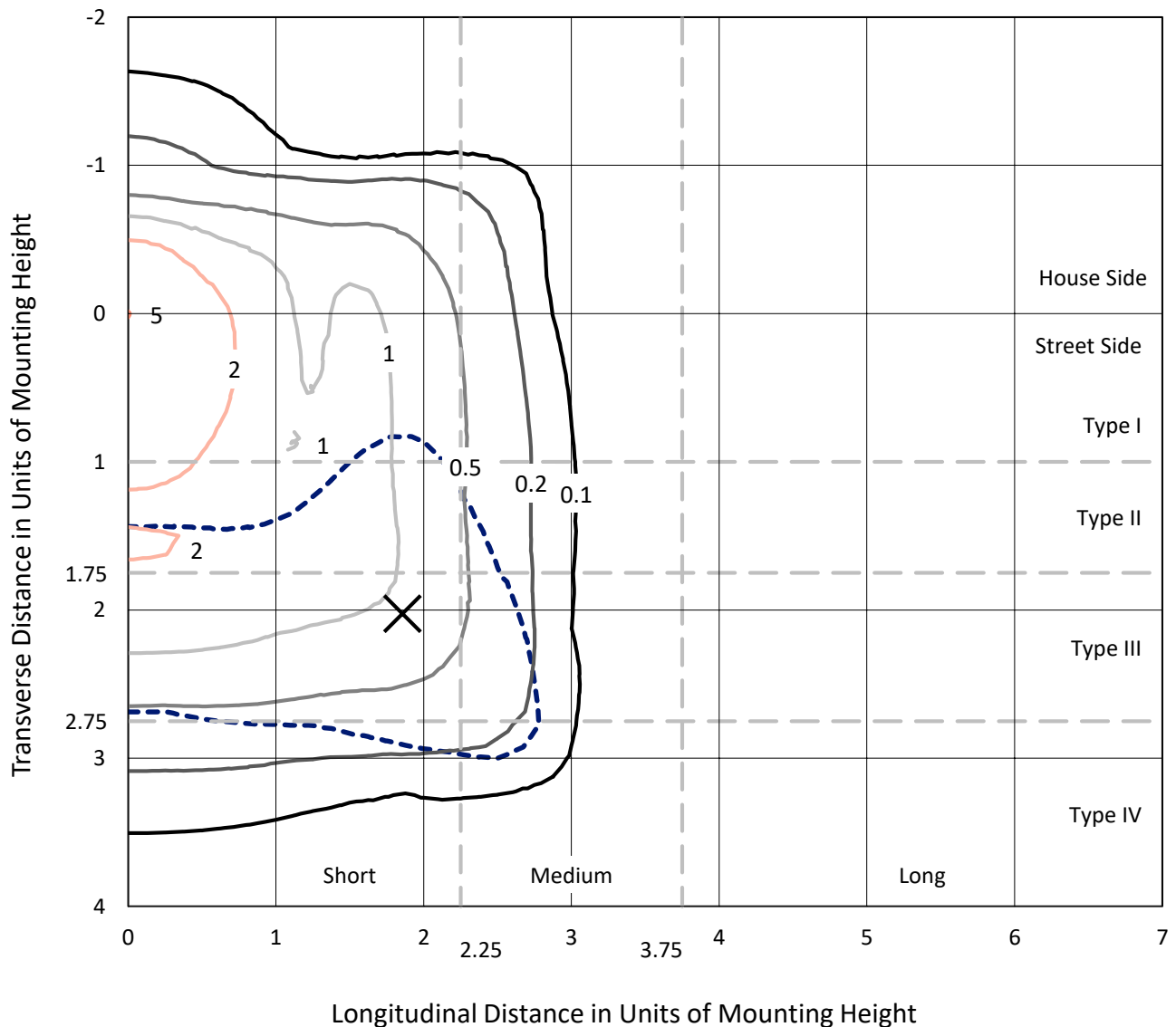
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

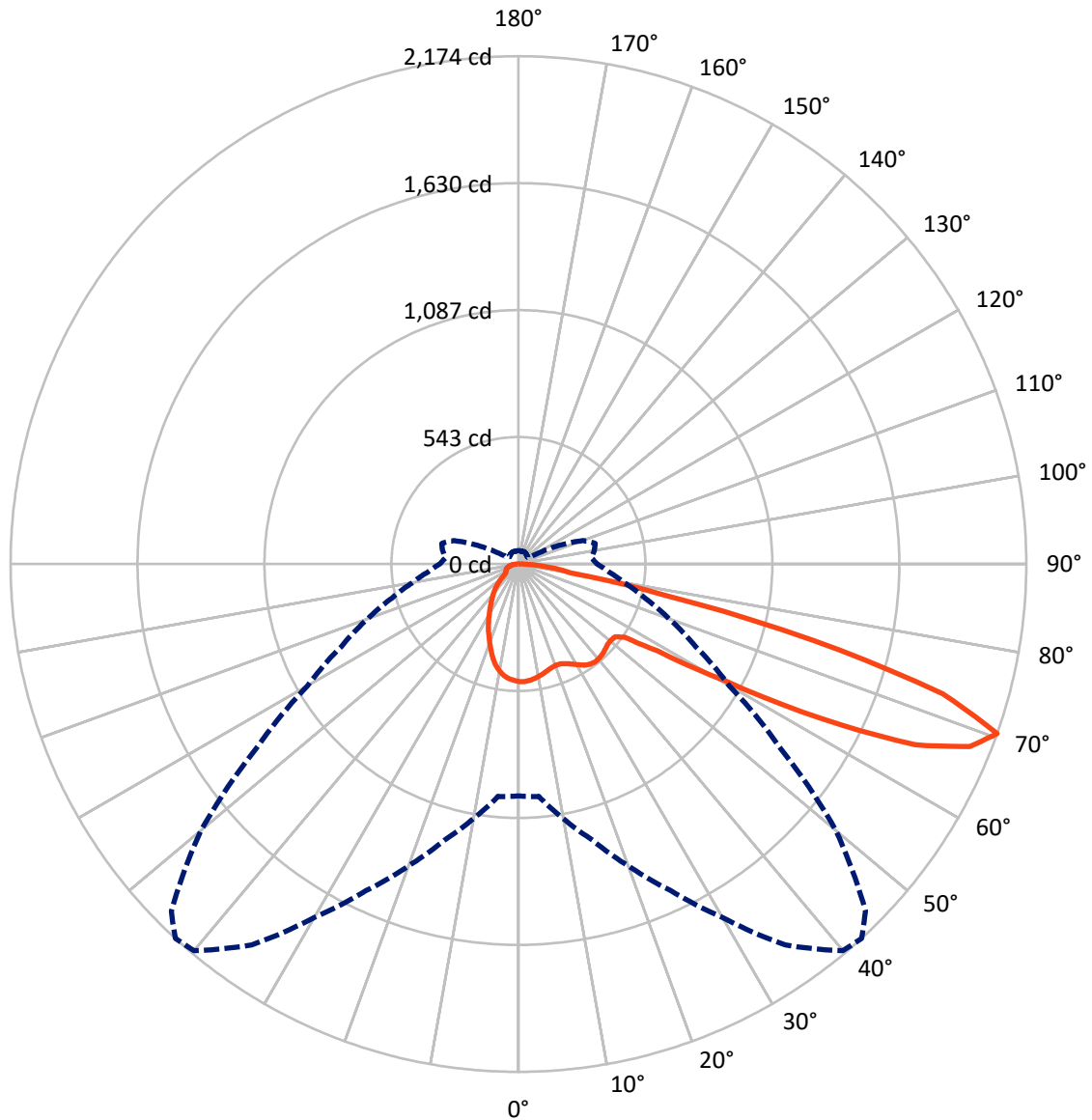
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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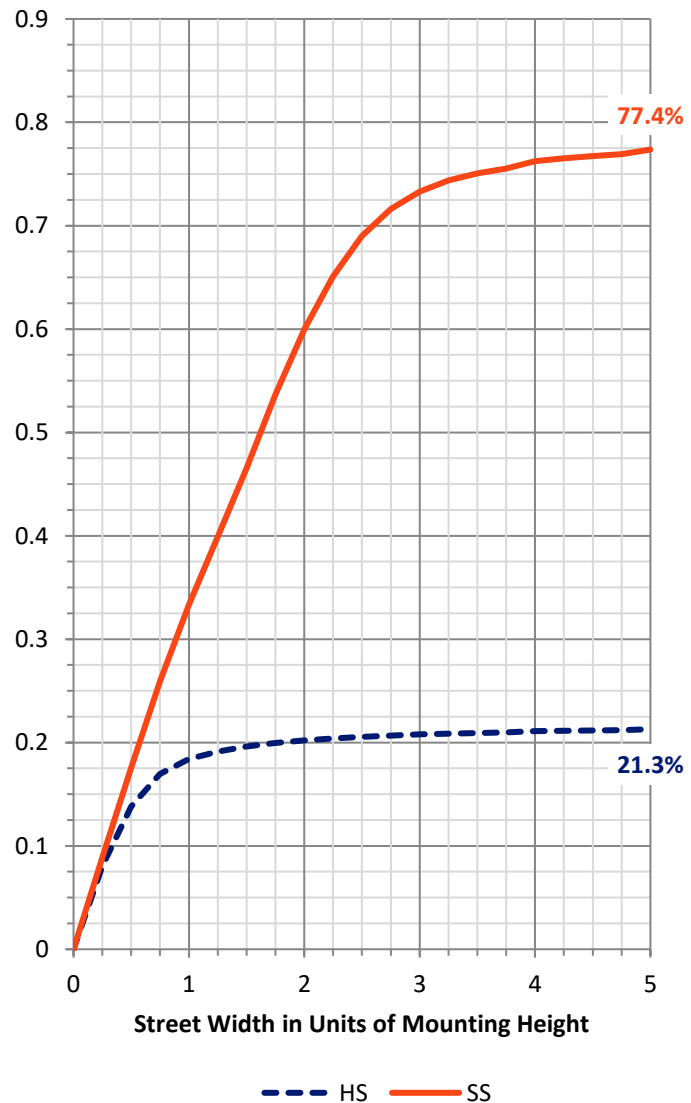
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	525.5	0.0	525.5
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	1907.0	0.0	1907.0
	% Fixture	78.4	0.0	78.4
Total	Lumens	2432.4	0.0	2432.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.8	1.9
10°-20°	126.1	5.2
20°-30°	183.9	7.6
30°-40°	234.6	9.6
40°-50°	273.8	11.3
50°-60°	418.7	17.2
60°-70°	758.9	31.2
70°-80°	337.4	13.9
80°-90°	52.2	2.1
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°	2432.4	100.0
0°-180°	2432.4	100.0



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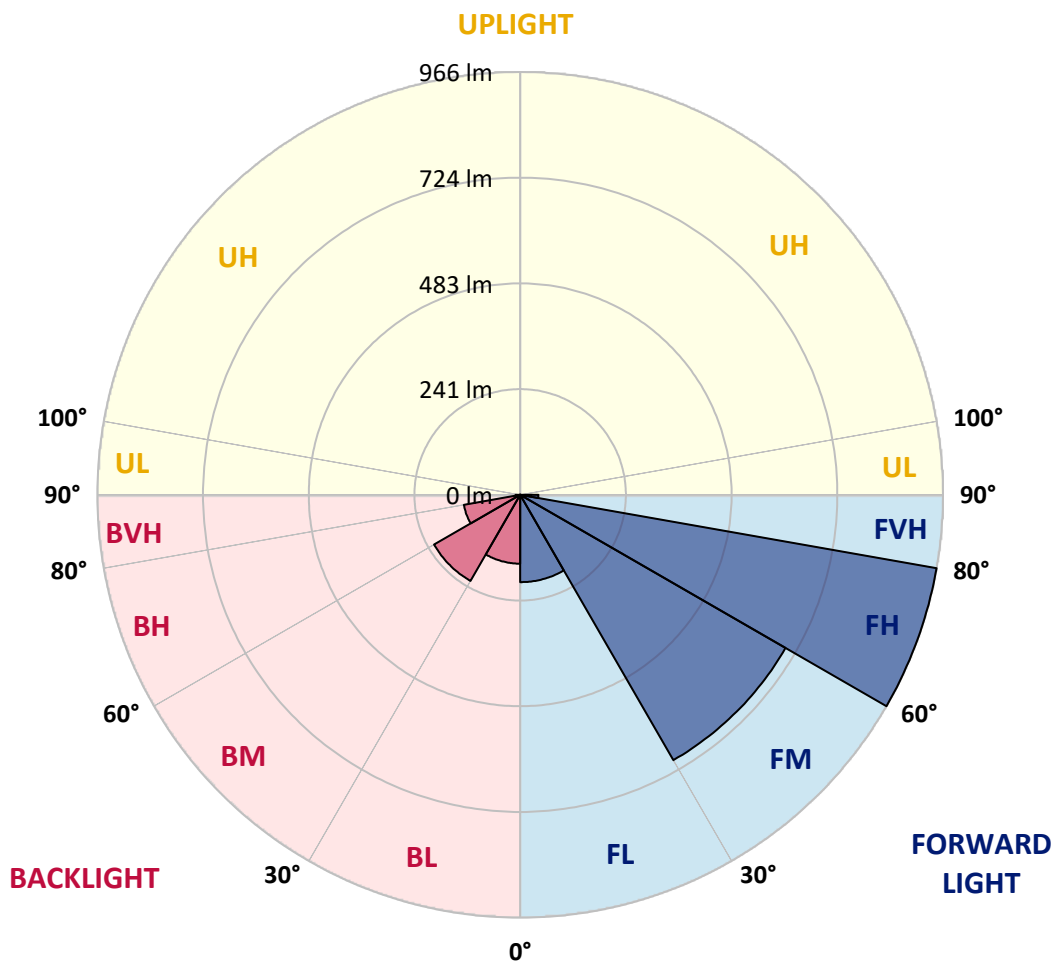
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	199.5	8.2			
FM	(30°-60°)	699.9	28.8			
FH	(60°-80°)	965.9	39.7			G1/1800
FVH	(80°-90°)	41.7	1.7			G1/100
BL	(0°-30°)	157.3	6.5	B1/500		
BM	(30°-60°)	227.1	9.3	B1/1000		
BH	(60°-80°)	130.5	5.4	B1/500		G1/500
BVH	(80°-90°)	10.5	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0
2.5°	505.4	504.9	505.2	505.6	505.6	505.7	504.2	504.4	503.7	503.9	504.0
5°	503.5	503.0	503.4	503.4	503.4	503.2	501.2	501.0	500.1	500.1	499.8
7.5°	500.0	498.1	499.1	499.3	499.0	498.1	496.9	495.8	495.3	495.3	494.1
10°	494.6	492.6	493.1	493.4	493.2	491.5	491.0	489.9	488.5	488.0	486.6
12.5°	487.7	486.3	487.0	486.8	486.8	485.3	484.5	482.8	481.1	480.2	478.5
15°	483.3	481.6	482.3	482.3	481.6	480.1	478.9	475.8	473.0	472.0	469.8
17.5°	486.0	484.3	485.0	484.5	483.3	480.1	477.0	472.1	467.6	464.9	462.0
20°	496.8	495.1	495.6	495.3	493.6	488.3	482.8	474.3	465.9	461.8	457.4
22.5°	514.0	512.6	513.5	513.0	510.3	503.5	495.3	483.1	470.4	464.4	458.1
25°	539.5	539.1	540.5	539.0	535.1	525.0	513.0	496.6	480.1	472.5	463.7
27.5°	570.2	567.3	569.4	568.0	565.3	552.5	536.3	515.5	494.4	484.5	474.0
30°	597.9	595.4	599.1	598.4	594.3	581.2	560.7	536.4	512.6	500.0	488.0
32.5°	630.0	626.7	629.6	629.6	623.5	605.8	582.5	554.7	529.7	516.2	501.8
35°	663.5	660.2	662.9	662.0	651.2	627.8	598.6	568.3	540.8	527.0	512.3
37.5°	694.8	694.3	694.9	689.4	674.3	644.3	609.4	575.6	546.4	531.9	516.5
40°	726.0	724.8	721.9	712.2	690.2	654.1	614.9	578.1	546.7	531.5	516.0
42.5°	745.6	743.4	738.5	725.2	697.6	656.5	613.2	574.3	542.7	527.2	512.0
45°	752.3	750.1	744.2	729.2	697.8	652.7	606.7	566.5	535.1	520.9	505.6
47.5°	746.8	745.4	740.0	725.0	692.4	645.8	598.4	558.7	527.8	514.0	499.6
50°	737.3	736.5	731.7	717.9	687.3	641.6	594.5	555.0	525.8	513.0	499.5
52.5°	760.9	758.4	750.0	733.6	698.0	649.2	600.6	560.6	530.5	517.5	503.7
55°	1051.4	1032.7	990.8	912.4	802.5	717.2	645.5	597.2	564.8	552.1	539.0
57.5°	1382.8	1363.2	1345.8	1285.9	1155.4	994.4	849.6	764.8	706.8	701.2	696.0
60°	1510.4	1516.7	1515.1	1492.9	1426.0	1349.5	1228.3	1128.2	1017.3	1012.8	1019.4
62.5°	1598.4	1603.6	1604.3	1597.5	1575.7	1550.2	1524.9	1492.9	1471.8	1462.6	1403.7
65°	1634.6	1642.2	1658.9	1671.4	1675.0	1683.8	1706.7	1794.0	1866.7	1866.2	1797.2
67.5°	1496.1	1505.2	1568.5	1630.6	1682.7	1743.2	1836.2	1978.1	2087.7	2084.3	2027.8
70°	992.9	998.6	1106.1	1223.1	1374.9	1542.6	1745.9	1990.6	2160.4	2173.8	2100.9
72.5°	609.0	622.2	657.3	704.7	785.8	941.2	1243.4	1661.6	1910.8	1898.3	1840.2
75°	411.2	411.9	410.9	415.9	420.5	451.9	573.6	913.7	1294.3	1301.1	1276.1
77.5°	281.0	284.8	286.8	285.4	290.0	288.6	295.7	313.1	496.1	633.2	581.8
80°	245.6	247.1	249.3	246.1	237.7	232.9	239.5	233.3	219.8	227.0	217.4
82.5°	155.5	160.0	160.5	171.7	188.2	188.9	197.3	191.1	173.9	162.6	148.7
85°	111.7	113.4	116.5	117.1	111.4	106.5	109.6	104.3	94.0	87.9	77.8
87.5°	65.2	66.8	69.9	68.0	62.3	55.2	49.8	42.9	33.9	31.7	28.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0
2.5°	504.2	503.4	502.7	502.3	503.0	502.3	501.7	501.3	500.7	500.8	500.0
5°	499.5	498.3	497.3	496.4	497.1	495.9	494.9	494.2	493.4	493.2	492.4
7.5°	492.9	491.0	489.7	488.2	486.5	485.5	484.3	483.1	481.2	481.1	480.7
10°	484.3	482.8	480.1	477.7	475.3	472.8	470.3	468.4	466.2	465.4	464.2
12.5°	475.7	472.6	469.4	465.7	462.8	458.8	455.4	451.9	448.7	446.6	444.4
15°	465.5	462.3	457.8	454.2	450.2	445.6	441.2	436.0	430.8	427.6	424.5
17.5°	456.8	452.7	449.0	443.9	439.9	434.7	428.1	422.5	416.3	411.0	405.5
20°	450.0	445.5	441.1	436.5	431.6	425.7	418.5	410.5	402.6	395.2	386.9
22.5°	447.3	440.1	435.2	430.9	425.9	419.1	411.0	401.2	391.4	382.0	372.4
25°	449.7	438.9	431.3	426.6	422.0	415.1	406.0	394.8	383.3	371.4	359.9
27.5°	456.1	442.4	431.6	424.2	419.0	412.2	402.1	390.4	377.4	363.9	351.6
30°	465.4	448.3	434.8	424.2	416.4	408.7	397.7	384.5	370.8	356.7	342.8
32.5°	475.5	454.9	438.7	424.7	412.7	402.9	391.4	378.6	364.1	349.1	334.2
35°	483.1	459.6	440.4	422.8	407.5	395.2	382.8	370.3	356.2	341.0	326.1
37.5°	486.3	461.5	440.1	419.0	400.2	386.7	373.9	361.4	347.7	333.4	319.7
40°	486.5	461.5	438.0	413.7	392.6	377.9	364.4	352.8	340.0	327.6	315.5
42.5°	483.3	459.1	434.3	408.8	387.1	370.5	356.7	344.7	334.4	323.4	313.1
45°	477.5	454.4	430.9	406.1	385.0	368.7	353.8	342.5	333.2	323.4	314.5
47.5°	473.1	451.7	431.1	410.0	389.9	373.0	357.0	345.0	337.1	329.3	322.9
50°	474.0	452.7	433.1	413.0	393.3	376.3	360.7	350.4	345.7	343.2	341.6
52.5°	478.4	456.8	441.9	428.6	422.2	411.7	403.1	395.3	396.5	390.4	382.7
55°	523.6	516.4	533.4	545.7	551.8	562.4	577.8	563.1	561.1	542.3	486.6
57.5°	703.0	720.3	746.4	765.0	766.9	763.6	751.0	738.8	719.1	690.9	612.9
60°	1004.0	1000.0	975.7	943.1	917.8	884.5	851.1	822.9	791.2	747.9	664.9
62.5°	1320.5	1222.9	1136.3	1062.6	1000.0	944.4	894.0	851.6	808.0	745.9	657.5
65°	1576.1	1388.4	1235.8	1117.1	1023.9	945.4	880.3	821.9	763.6	691.7	606.0
67.5°	1758.7	1460.9	1230.7	1063.8	933.1	825.1	730.2	663.7	604.0	547.4	508.8
70°	1773.2	1360.5	1041.1	836.9	686.2	559.2	460.8	388.2	336.2	312.8	329.5
72.5°	1515.3	1006.5	692.2	512.3	406.6	316.0	254.0	203.1	161.2	140.6	143.5
75°	892.4	483.3	311.8	232.3	189.7	151.6	131.2	110.7	97.7	78.3	62.6
77.5°	339.8	210.2	157.3	130.6	93.2	67.0	52.8	45.6	41.9	41.4	39.2
80°	195.8	154.1	107.9	70.6	51.7	43.7	37.5	32.1	29.9	29.4	30.2
82.5°	123.7	96.0	59.2	45.4	37.6	32.4	27.0	23.5	21.6	20.9	22.1
85°	64.0	48.1	36.1	31.1	28.9	26.3	21.6	18.1	17.9	18.7	21.6
87.5°	23.6	20.6	16.2	14.0	15.0	14.0	10.1	8.8	7.9	10.5	15.2
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0	503.0
2.5°	500.0	499.6	499.8	499.5	499.5	500.0	499.3	498.8	499.6	499.6	500.1
5°	492.2	492.6	492.6	492.4	492.7	493.6	493.4	493.4	494.7	495.3	495.9
7.5°	479.9	480.4	480.6	481.1	481.2	482.4	483.3	484.3	486.3	486.8	488.3
10°	463.2	462.8	464.0	463.9	465.4	466.4	467.1	469.3	472.3	474.0	475.5
12.5°	443.4	443.4	444.1	444.3	445.6	447.0	447.8	450.5	453.1	455.2	458.6
15°	422.5	421.8	420.3	420.1	420.6	422.0	423.9	425.9	429.8	433.0	435.8
17.5°	400.6	398.5	396.7	394.3	394.1	394.0	395.0	396.5	402.6	405.8	409.8
20°	381.1	376.8	372.4	367.5	364.6	363.3	363.8	365.8	371.5	375.7	380.0
22.5°	363.8	357.2	350.3	342.5	337.8	334.9	335.2	336.1	340.3	342.8	345.0
25°	348.9	339.8	330.2	320.2	313.6	309.2	309.1	309.1	307.2	307.6	306.4
27.5°	338.8	326.1	313.8	302.1	293.5	289.2	283.2	279.0	275.3	270.2	268.1
30°	329.0	316.0	302.0	289.2	278.9	270.2	259.3	250.2	242.9	236.0	230.1
32.5°	320.2	306.7	293.4	279.4	265.2	250.3	236.0	225.5	215.2	204.6	197.5
35°	312.4	299.8	286.5	270.6	250.7	231.3	215.0	200.9	188.7	175.9	165.6
37.5°	308.1	296.6	282.7	261.1	236.1	214.0	196.0	180.1	163.9	148.5	135.9
40°	305.9	295.7	278.9	251.5	223.2	199.5	179.4	160.4	141.3	123.2	110.1
42.5°	305.5	295.7	273.1	241.7	212.0	186.7	164.2	141.3	118.2	100.6	89.0
45°	308.6	295.4	267.0	232.9	202.1	175.2	148.2	121.2	97.4	82.0	75.6
47.5°	317.3	296.6	262.3	225.5	192.6	162.6	130.0	98.9	78.7	71.7	71.6
50°	331.5	302.0	261.3	220.1	183.3	146.7	108.5	79.2	69.4	69.0	70.9
52.5°	354.0	312.1	263.8	216.4	172.2	126.1	85.9	68.4	66.5	68.4	70.7
55°	403.4	330.2	267.2	209.8	154.1	99.9	70.7	64.8	65.7	67.9	70.1
57.5°	493.4	367.6	270.8	195.0	124.9	76.8	63.6	63.5	65.0	66.8	68.9
60°	550.5	413.9	279.4	173.0	94.4	63.5	60.9	62.6	64.5	65.8	67.5
62.5°	552.3	426.0	283.9	149.6	70.2	58.1	58.6	61.8	64.0	64.5	65.3
65°	516.7	403.1	263.3	121.7	58.2	55.0	56.9	59.8	61.9	62.3	63.0
67.5°	451.4	355.5	223.2	91.8	53.0	52.7	54.7	56.9	58.4	59.8	60.8
70°	340.0	293.4	179.4	71.2	49.8	49.5	51.5	53.3	54.7	56.4	58.1
72.5°	172.3	203.1	136.1	58.2	45.4	45.7	47.9	49.6	50.6	52.2	53.8
75°	58.7	88.6	86.1	47.1	40.5	41.9	42.9	44.7	46.3	47.3	48.1
77.5°	36.8	38.5	44.4	38.0	35.8	36.1	37.8	39.5	41.2	41.9	42.2
80°	30.7	30.9	31.1	30.4	30.6	31.6	32.6	34.4	36.1	36.5	36.6
82.5°	24.3	26.0	25.8	25.7	26.5	27.5	28.2	28.9	29.5	29.9	30.4
85°	21.4	21.1	21.3	21.8	21.1	20.4	20.3	20.3	21.3	22.5	23.0
87.5°	19.6	16.7	12.5	11.8	11.8	11.5	10.8	10.8	11.8	12.8	13.3
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):

	160°	165°	170°	175°	180°
0°	503.0	503.0	503.0	503.0	503.0
2.5°	500.0	500.1	500.0	500.0	500.8
5°	496.3	496.9	496.6	497.1	497.6
7.5°	488.7	490.4	490.7	492.0	491.5
10°	477.7	478.9	480.6	481.9	481.4
12.5°	460.3	463.2	465.7	467.2	466.9
15°	438.2	442.3	445.6	446.8	445.5
17.5°	414.6	417.1	421.2	422.0	423.3
20°	384.7	384.5	388.1	388.1	387.4
22.5°	345.7	348.2	348.2	345.9	344.7
25°	305.9	306.7	304.2	304.7	301.5
27.5°	265.9	263.7	261.6	262.5	260.1
30°	227.7	223.0	221.0	221.3	218.8
32.5°	191.1	185.5	183.5	180.8	178.6
35°	157.8	149.0	143.8	142.5	144.0
37.5°	125.2	119.0	112.8	108.2	108.7
40°	99.1	92.7	88.6	86.8	86.4
42.5°	81.9	78.2	77.3	77.5	77.5
45°	74.3	74.4	75.1	75.8	76.0
47.5°	72.8	73.8	74.9	75.8	76.0
50°	72.6	73.6	74.4	75.5	75.8
52.5°	72.4	73.1	73.6	74.1	74.6
55°	71.7	72.1	71.9	72.2	72.8
57.5°	70.1	70.2	69.9	70.1	71.1
60°	68.5	68.7	68.0	68.9	69.0
62.5°	66.7	66.5	66.2	66.7	66.7
65°	64.0	63.0	63.3	63.8	64.0
67.5°	60.8	59.8	59.8	60.1	60.6
70°	56.7	56.2	56.2	56.9	57.6
72.5°	52.2	52.5	53.5	54.5	55.5
75°	48.4	49.3	50.3	52.8	54.4
77.5°	43.7	43.9	44.7	47.3	50.0
80°	37.1	37.0	37.1	37.5	38.0
82.5°	29.4	29.0	28.0	28.4	27.7
85°	21.6	21.1	19.9	19.1	18.9
87.5°	12.5	12.5	12.0	11.3	10.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)