

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: McGRAW-EDISON

Report Number: P299027

Luminaire Tested: **GLNA-AF-09-LED-E1-SLL-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299027
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P191289)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-09-LED-E1-SLL-7050-600
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 5000K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND 90° Spill
Light Eliminator Left OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30706.4 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G5

Input Watts (W): 290
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

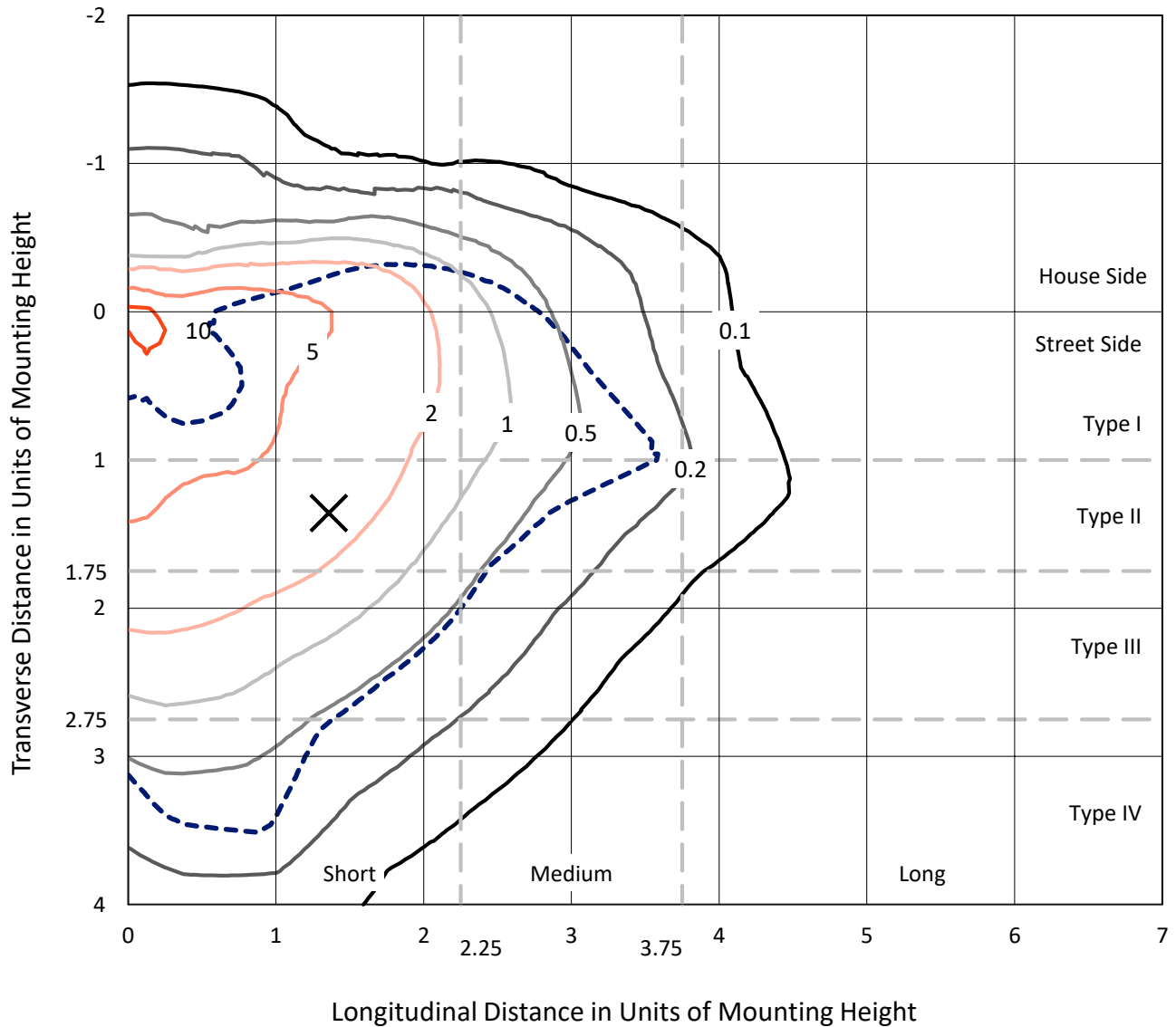


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Iso-Footcandle Lines of Horizontal Illumination

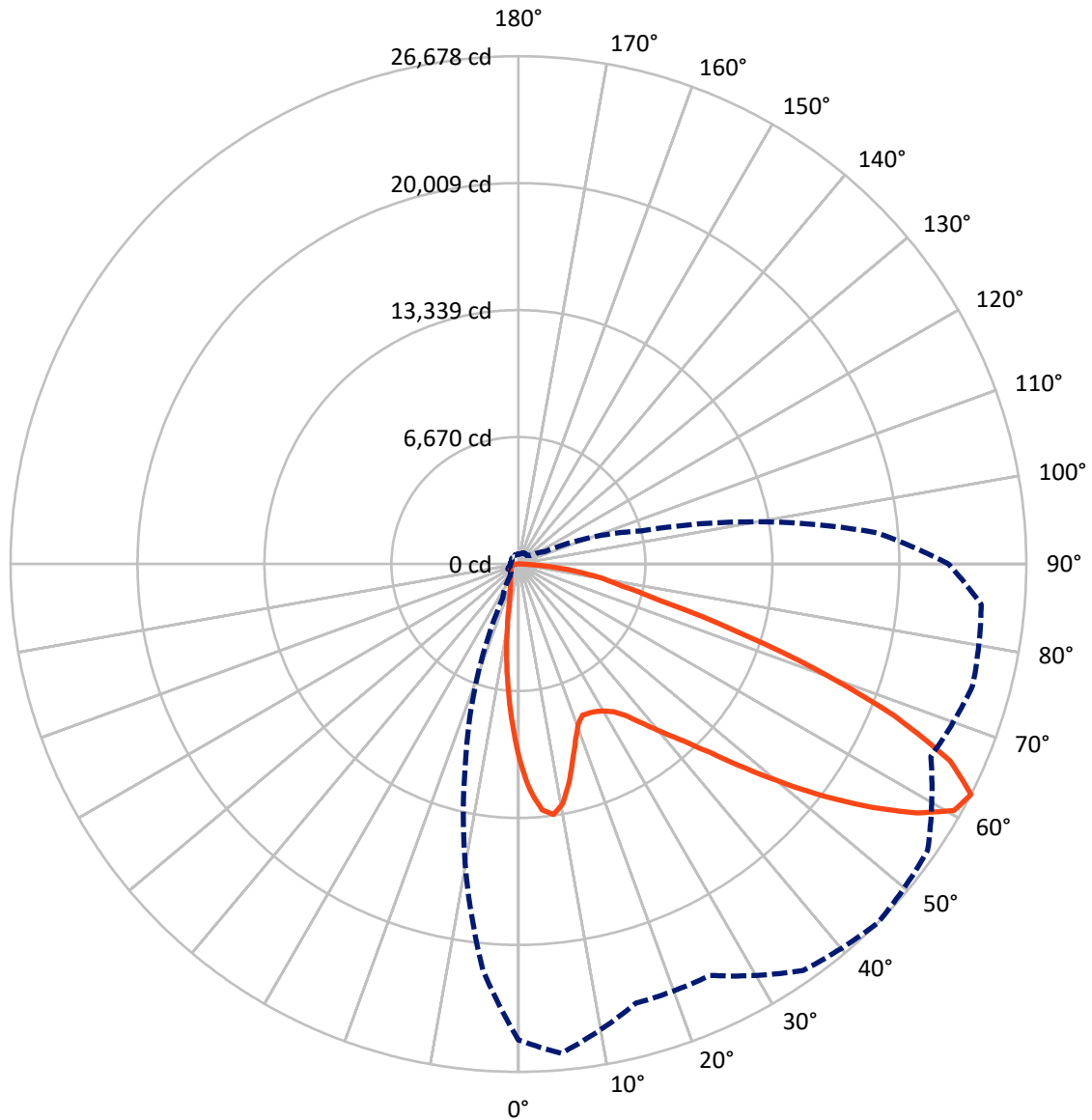
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5081.5	0.0	5081.5
	% Fixture	16.5	0.0	16.5
Street Side	Lumens	25624.9	0.0	25624.9
	% Fixture	83.5	0.0	83.5
Total	Lumens	30706.4	0.0	30706.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	755.2	2.5
10°-20°	1384.8	4.5
20°-30°	2019.1	6.6
30°-40°	3109.7	10.1
40°-50°	4576.6	14.9
50°-60°	6713.0	21.9
60°-70°	7504.1	24.4
70°-80°	3673.9	12.0
80°-90°	970.0	3.2
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°	30706.4	100.0
0°-180°	30706.4	100.0

Coefficient of Utilization



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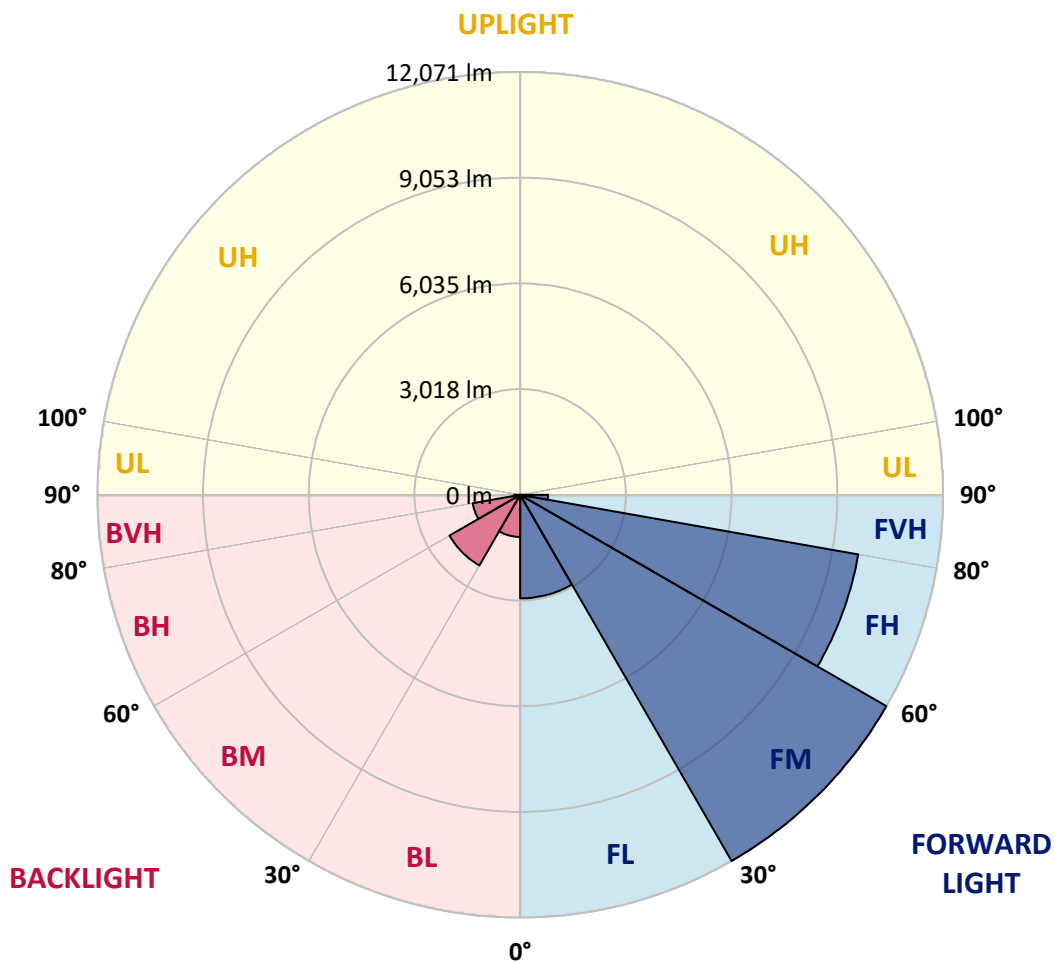
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2956.9	9.6			
FM	(30°-60°)	12071.0	39.3			
FH	(60°-80°)	9800.4	31.9			G4/12000
FVH	(80°-90°)	796.6	2.6			G5
BL	(0°-30°)	1202.2	3.9	B3/2500		
BM	(30°-60°)	2328.3	7.6	B2/2500		
BH	(60°-80°)	1377.6	4.5	B3/2500		G3/2500
BVH	(80°-90°)	173.4	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6
2.5°	10779.0	10951.6	11287.5	11538.5	11844.8	11915.5	12013.6	11917.1	11746.7	11520.4	11446.4
5°	10136.2	10504.5	11319.3	12037.1	12675.0	12972.0	13055.2	12809.8	12315.5	11665.6	11268.9
7.5°	9105.0	9628.3	10731.9	11788.9	12728.7	13284.3	13270.6	12701.8	11792.2	10733.5	10097.3
10°	8215.1	8812.9	10079.3	11260.7	12258.0	12796.6	12588.4	11861.8	10775.7	9557.0	8867.2
12.5°	7717.5	8303.3	9587.7	10774.1	11608.1	11793.8	11634.9	10922.6	9899.5	8667.7	8063.3
15°	7631.0	8274.8	9392.1	10357.6	10825.0	10663.4	10473.8	10154.9	9432.1	8380.6	7751.0
17.5°	8004.7	8713.2	9616.8	10067.2	9987.7	9705.5	9651.8	9687.5	9513.8	8699.5	7974.0
20°	8720.3	9570.7	10151.6	9930.8	9351.6	8963.1	8976.8	9518.7	10033.2	9508.3	8679.2
22.5°	9724.2	10695.2	10922.6	10003.1	9083.1	8622.2	8734.0	9611.8	10862.3	10690.2	9631.6
25°	11023.9	11908.9	11745.1	10266.1	9109.9	8664.4	8753.7	9932.4	11841.0	11871.6	10810.2
27.5°	12283.2	13104.0	12435.0	10615.7	9221.7	8764.1	8882.5	10436.5	12776.3	13154.4	12157.1
30°	13265.7	13836.6	12708.4	10934.6	9440.9	8958.1	9105.0	10916.0	13202.1	14020.2	13193.3
32.5°	14079.4	14489.3	13144.0	11329.7	9844.2	9263.3	9522.0	11498.5	13814.7	14844.4	14207.6
35°	15118.9	15235.6	13686.0	11770.3	10467.2	9795.4	10116.0	12068.9	14398.9	15676.2	15207.1
37.5°	16338.1	16188.0	14197.2	12373.0	11272.7	10627.2	10892.4	12695.2	14879.4	16619.8	16228.0
40°	17543.1	17181.4	14839.4	13307.9	12447.6	11608.1	11922.1	13363.8	15328.8	17565.0	17225.8
42.5°	18567.8	18032.4	15471.8	14335.8	13540.7	12690.3	13065.1	14037.2	15757.3	18371.6	18091.6
45°	19325.6	18660.4	16074.5	15323.3	15048.2	14128.2	14305.7	14808.2	16221.4	19045.6	18803.9
47.5°	20002.3	19291.6	16756.2	16319.5	16366.6	15998.4	15712.9	15706.3	16768.8	19595.7	19477.4
50°	20908.7	20167.8	17488.8	17345.3	18344.7	18099.8	17470.2	16754.6	17460.3	20220.4	20206.7
52.5°	22158.0	21555.8	18383.7	18451.1	20191.9	20351.9	19571.6	18014.3	18543.7	21366.2	21285.7
55°	23635.3	23283.5	19602.9	19722.3	22456.7	22571.7	21796.4	19588.6	20137.7	23026.0	22801.3
57.5°	24787.7	24713.7	20939.4	21248.4	24148.2	24665.0	23952.6	21412.3	21933.4	24423.3	23859.5
60°	25246.9	25606.4	22362.4	22787.6	25713.2	26284.7	25660.6	23013.4	23525.2	25002.5	23787.1
62.5°	24999.2	25802.0	23878.1	23842.5	26062.3	26678.2	26239.3	23904.9	24705.5	24404.7	22583.8
65°	23852.9	25098.4	24757.6	23570.7	24867.2	24917.6	24775.7	23506.6	24983.9	22515.9	20257.1
67.5°	21355.8	23148.7	23599.2	21241.8	21642.9	21314.2	21075.8	21325.7	23531.8	19685.1	17024.7
70°	17394.6	20092.2	20307.6	16989.6	16807.2	16585.8	16111.8	17483.9	20667.6	16133.7	13509.0
72.5°	12790.0	15625.7	16288.8	12460.7	11616.8	11661.8	11287.5	13175.8	16803.9	11984.5	10085.8
75°	8750.4	11314.4	12744.6	8694.5	7682.5	7700.5	7652.9	9336.2	13384.0	8336.7	7547.1
77.5°	6392.6	8083.6	9611.8	5845.1	5674.7	5570.1	5544.9	6532.3	10261.2	6053.4	5860.5
80°	5129.5	5972.3	6456.1	4051.1	4356.3	4348.1	4207.8	4491.7	6701.1	4427.6	4383.2
82.5°	3558.5	4589.7	5230.9	3174.9	2940.4	2891.1	2925.6	3345.3	4736.6	3026.4	2877.9
85°	1877.3	3048.3	5180.5	2813.8	1745.3	1392.4	1732.1	2739.3	4103.7	1603.9	1403.9
87.5°	240.0	881.1	3429.7	1122.8	688.8	371.0	822.5	1542.5	2635.2	327.1	285.5
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°	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6
2.5°	11255.7	11031.1	10737.4	10465.0	10183.4	9902.8	9536.8	9307.2	9148.8	9118.1	9051.3
5°	10982.3	10236.0	9672.1	9184.4	8742.2	8117.0	7771.2	7484.1	7330.7	7315.9	7278.6
7.5°	9720.9	8691.3	7930.1	7239.7	6613.4	6108.7	5551.4	5292.2	5185.4	5210.6	5235.8
10°	8409.1	7258.3	6383.8	5678.0	5126.2	4701.0	4253.8	3951.9	3742.0	3699.9	3691.6
12.5°	7450.7	6188.2	5339.4	4840.7	4414.4	4013.8	3539.8	3183.1	2911.9	2818.7	2756.8
15°	7045.2	5664.9	4775.5	4238.5	3767.3	3259.3	2818.7	2445.6	2196.2	2115.1	2069.7
17.5°	7131.8	5519.6	4387.0	3699.9	3097.6	2567.2	2012.1	1692.7	1542.5	1504.2	1504.2
20°	7584.4	5492.8	4065.9	3203.9	2452.1	1837.9	1382.5	1200.0	1151.3	1146.3	1159.5
22.5°	8218.9	5587.6	3827.0	2773.8	1905.8	1342.0	1076.7	1009.4	987.4	992.9	1007.7
25°	9164.2	5906.5	3653.3	2390.2	1495.4	1098.7	960.0	920.0	909.6	923.3	942.0
27.5°	10284.7	6225.4	3544.8	2101.4	1262.5	1004.4	912.9	871.3	877.8	894.8	911.3
30°	11268.9	6487.3	3374.4	1896.0	1190.2	1009.4	912.9	855.9	849.3	852.6	857.6
32.5°	12152.2	6664.3	3174.9	1699.8	1026.3	896.5	852.6	844.4	806.6	792.9	795.1
35°	12913.3	6664.3	3055.4	1585.3	920.0	795.1	724.4	682.2	663.0	664.7	683.9
37.5°	13647.6	6530.6	2996.3	1520.6	862.5	756.2	693.7	656.5	631.3	626.3	629.6
40°	14295.3	6336.7	2928.9	1493.8	818.7	732.6	674.0	642.8	615.9	607.7	609.3
42.5°	14815.3	6179.4	2854.3	1458.7	791.3	715.6	659.7	632.9	602.8	594.0	592.3
45°	15377.5	6127.3	2756.8	1387.4	805.0	717.3	656.5	628.0	597.3	587.4	584.1
47.5°	16118.4	6291.2	2655.4	1303.1	834.0	726.1	661.4	628.0	595.6	587.4	584.1
50°	17051.6	6675.8	2526.7	1179.8	805.0	749.6	659.7	622.5	595.6	587.4	580.8
52.5°	18250.5	7195.9	2358.4	1038.4	788.0	806.6	656.5	612.6	587.4	575.9	563.9
55°	19707.0	7621.1	2156.8	921.7	749.6	791.3	651.5	601.1	574.3	557.3	546.9
57.5°	20773.9	7774.5	1899.2	846.1	695.4	766.1	644.4	585.8	557.3	543.6	530.4
60°	20562.9	7477.5	1681.2	798.4	663.0	692.1	639.5	572.1	541.9	532.1	519.5
62.5°	18873.5	6701.1	1540.9	776.5	642.8	631.3	644.4	558.9	528.8	517.8	514.5
65°	16339.7	5554.7	1485.5	771.5	626.3	595.6	599.5	543.6	512.9	504.7	501.4
67.5°	13478.3	4483.4	1436.8	788.0	604.4	570.4	554.0	523.3	497.6	489.3	482.8
70°	10628.9	3728.9	1414.3	778.1	577.6	545.2	527.1	501.4	479.5	470.7	465.8
72.5°	8559.2	3149.7	1402.2	767.7	541.9	511.3	494.3	472.3	448.8	445.5	440.6
75°	7243.5	2476.3	1285.0	735.9	501.4	470.7	459.2	438.9	415.4	415.4	412.1
77.5°	5587.6	1790.7	1068.5	651.5	459.2	425.2	415.4	400.0	373.2	378.1	376.5
80°	4127.3	1168.3	835.6	540.3	407.1	374.8	369.3	354.5	325.5	332.6	332.6
82.5°	2827.5	766.1	601.1	442.2	347.4	317.3	317.3	301.9	270.1	273.4	283.8
85°	1419.8	527.1	448.8	342.5	270.1	254.8	254.8	243.3	211.0	212.6	226.3
87.5°	432.3	317.3	297.0	244.9	194.0	190.7	181.9	173.7	153.4	151.8	160.6
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°	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6
2.5°	8947.7	8851.3	8735.6	8478.7	8392.6	8387.1	8465.5	8383.9	8539.5	8473.7	8546.1
5°	7215.6	7121.9	6991.5	6664.3	6464.9	6329.5	6266.0	6076.9	6213.4	6113.6	6196.9
7.5°	5307.0	5329.0	5242.9	5050.6	4616.6	4399.1	4270.8	4155.8	4255.5	4245.1	4404.0
10°	3730.5	3789.2	3728.9	3534.9	3183.1	3063.7	3087.2	3132.7	3263.1	3330.0	3574.9
12.5°	2685.6	2682.3	2643.4	2469.7	2238.4	2251.6	2348.0	2426.9	2546.9	2618.2	2867.5
15°	2005.0	1974.9	1957.9	1816.0	1684.4	1713.5	1760.6	1768.8	1845.0	1887.2	2089.9
17.5°	1515.7	1531.0	1549.1	1448.3	1348.5	1329.9	1293.2	1247.2	1269.6	1277.9	1378.7
20°	1203.3	1264.2	1310.2	1238.9	1138.1	1083.3	1036.2	1006.1	1006.1	1004.4	1032.9
22.5°	1051.5	1095.4	1144.7	1095.4	1004.4	956.7	929.9	906.3	903.0	903.0	929.9
25°	969.3	1001.1	1048.3	1014.8	946.9	911.3	886.1	855.9	844.4	840.6	859.2
27.5°	928.3	942.0	965.5	934.8	877.8	860.9	854.3	827.4	811.5	803.3	822.5
30°	859.2	855.9	857.6	827.4	781.4	779.8	791.3	796.7	791.3	789.6	818.7
32.5°	795.1	788.0	786.3	759.5	717.3	707.4	717.3	727.7	739.2	756.2	789.6
35°	714.0	731.0	740.8	717.3	666.3	636.2	624.7	606.0	595.6	595.6	634.5
37.5°	649.9	688.8	704.1	682.2	626.3	584.1	563.9	560.6	562.2	568.8	606.0
40°	628.0	656.5	669.6	648.2	592.3	554.0	541.9	538.6	541.9	552.3	589.1
42.5°	614.3	634.5	632.9	606.0	560.6	533.7	527.1	523.3	527.1	537.0	577.6
45°	602.8	615.9	602.8	570.4	528.8	514.5	516.2	514.5	517.8	528.8	567.1
47.5°	592.3	597.3	580.8	548.5	504.7	501.4	508.0	512.9	516.2	525.5	565.5
50°	577.6	577.6	562.2	528.8	484.4	486.0	494.3	506.3	508.0	517.8	550.7
52.5°	558.9	557.3	546.9	514.5	467.4	472.3	472.3	486.0	489.3	501.4	535.4
55°	543.6	540.3	535.4	504.7	452.6	460.8	455.9	460.8	469.1	481.1	517.8
57.5°	530.4	523.3	523.3	495.9	440.6	443.9	432.3	438.9	448.8	459.2	497.6
60°	516.2	509.6	512.9	484.4	421.9	418.6	413.7	426.9	430.7	442.2	481.1
62.5°	501.4	495.9	497.6	470.7	408.8	400.0	400.0	412.1	413.7	430.7	467.4
65°	489.3	482.8	481.1	457.6	393.4	383.6	388.5	393.4	396.7	413.7	448.8
67.5°	477.8	464.1	464.1	445.5	376.5	366.0	376.5	374.8	380.3	395.1	423.6
70°	462.5	443.9	445.5	437.3	359.5	347.4	356.2	354.5	357.8	367.7	396.7
72.5°	438.9	423.6	426.9	423.6	342.5	325.5	328.8	328.8	328.8	337.5	367.7
75°	408.8	396.7	407.1	415.4	322.2	298.6	301.9	301.9	297.0	301.9	339.2
77.5°	371.0	364.4	398.4	386.9	298.6	270.1	270.1	266.9	257.0	263.6	303.6
80°	331.0	325.5	367.7	323.8	271.8	235.1	231.2	222.5	212.6	217.5	258.6
82.5°	288.8	283.8	309.1	248.2	235.1	194.0	185.8	170.4	160.6	165.5	202.2
85°	236.7	236.7	238.4	187.4	178.6	148.5	138.6	118.4	106.3	109.6	145.2
87.5°	168.8	173.7	160.6	128.2	106.3	82.7	76.2	64.1	53.7	62.5	76.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P299027

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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6	10374.6
2.5°	8917.6	9103.3	9314.3	9583.9	9815.7	10194.9	10559.8	10779.0
5°	6667.6	6976.7	7360.8	7856.2	8317.0	9008.5	9695.7	10136.2
7.5°	4771.7	5102.6	5518.0	6135.6	6787.6	7669.9	8578.4	9105.0
10°	3948.6	4287.8	4636.9	5053.9	5587.6	6547.6	7621.1	8215.1
12.5°	3266.4	3629.2	4005.6	4444.5	4938.8	5796.4	7033.7	7717.5
15°	2499.8	2904.8	3348.6	3904.2	4523.4	5514.7	6888.5	7631.0
17.5°	1713.5	2166.1	2710.8	3396.3	4154.1	5423.2	7148.7	8004.7
20°	1179.8	1509.1	2091.6	2894.9	3806.7	5411.7	7647.9	8720.3
22.5°	987.4	1134.3	1559.5	2434.1	3544.8	5556.9	8423.3	9724.2
25°	912.9	1001.1	1245.5	2034.0	3354.1	5891.2	9490.2	11023.9
27.5°	869.6	948.5	1131.0	1772.7	3203.9	6279.1	10528.0	12283.2
30°	886.1	967.2	1098.7	1639.0	2999.6	6603.0	11449.7	13265.7
32.5°	798.4	834.0	942.0	1520.6	2852.7	6874.8	12256.3	14079.4
35°	680.6	742.5	840.6	1465.3	2856.0	7057.2	13135.8	15118.9
37.5°	648.2	710.7	781.4	1445.0	2894.9	7251.8	14145.1	16338.1
40°	628.0	685.5	746.3	1433.5	2932.2	7428.8	15134.8	17543.1
42.5°	614.3	666.3	742.5	1392.4	2950.8	7587.7	15948.0	18567.8
45°	612.6	666.3	756.2	1351.8	2979.3	7758.1	16630.2	19325.6
47.5°	614.3	688.8	731.0	1303.1	2979.3	8043.0	17430.2	20002.3
50°	607.7	726.1	704.1	1234.0	2910.2	8583.3	18527.2	20908.7
52.5°	604.4	721.1	651.5	1127.7	2790.2	9440.9	19933.3	22158.0
55°	595.6	695.4	614.3	969.3	2650.5	10376.3	21439.1	23635.3
57.5°	587.4	615.9	594.0	830.7	2434.1	11034.4	22475.3	24787.7
60°	658.1	538.6	577.6	762.8	2145.3	11214.6	22435.3	25246.9
62.5°	609.3	504.7	555.6	748.0	1943.1	10708.3	21398.6	24999.2
65°	477.8	482.8	533.7	791.3	1888.8	9366.9	19561.8	23852.9
67.5°	437.3	460.8	511.3	847.7	1894.3	7499.4	16817.6	21355.8
70°	412.1	437.3	486.0	876.2	1907.5	5590.9	13295.8	17394.6
72.5°	383.6	405.5	457.6	881.1	1819.2	4061.0	10248.0	12790.0
75°	349.1	369.3	417.0	767.7	1507.4	2817.1	7839.2	8750.4
77.5°	310.7	325.5	366.0	592.3	1119.5	1802.8	5884.0	6392.6
80°	265.2	273.4	307.4	434.0	766.1	1127.7	4655.5	5129.5
82.5°	212.6	215.9	238.4	325.5	497.6	724.4	3117.9	3558.5
85°	150.1	150.1	163.8	236.7	339.2	459.2	1692.7	1877.3
87.5°	70.7	72.3	72.3	129.9	177.0	233.4	390.2	240.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)