

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: FAIL-SAFE

Report Number: P392649

Luminaire Tested: **MWL-4-26-60-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-26-60-UNV-L930-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

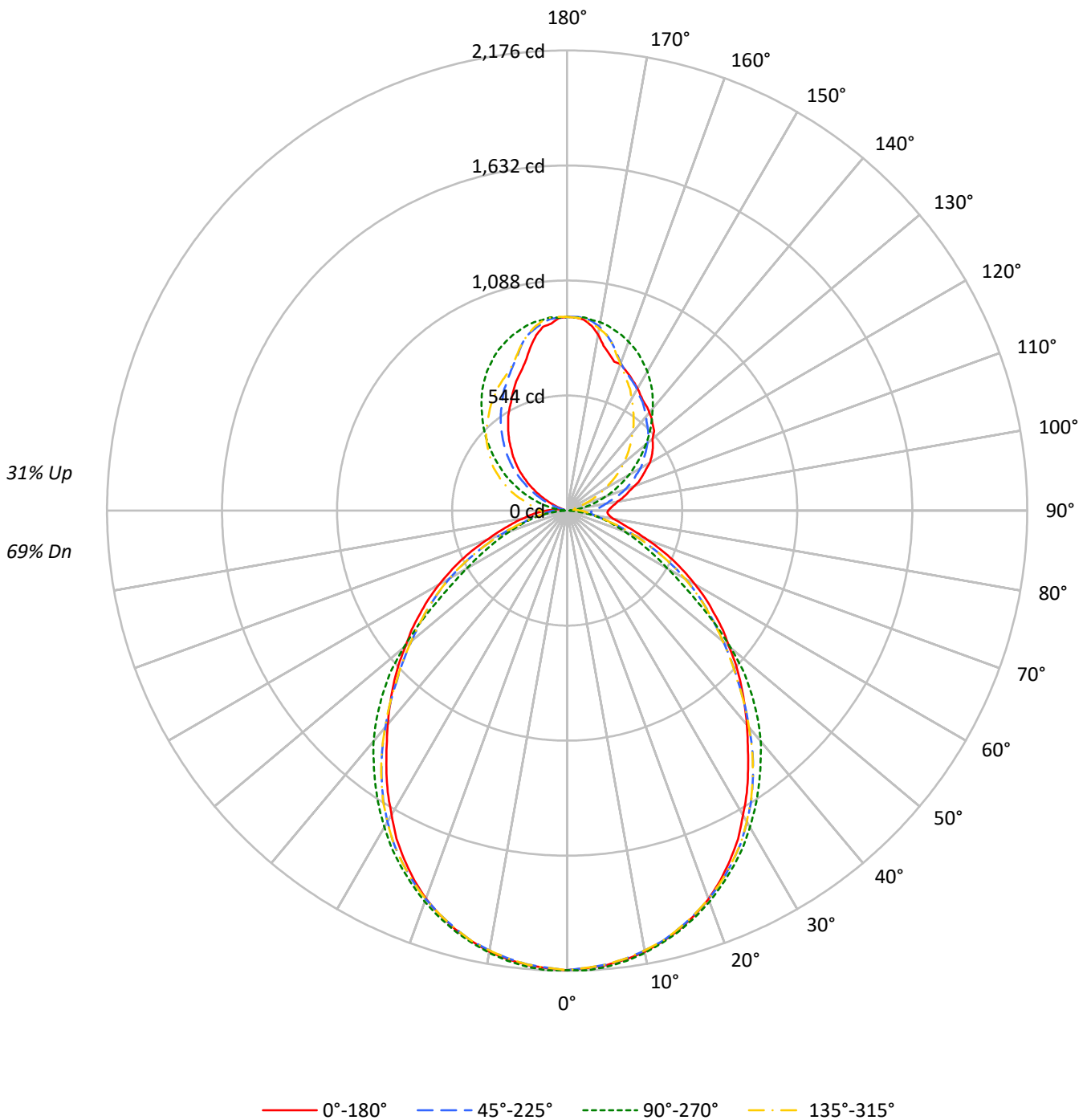
Lumens per Lamp: N/A
Luminaire Lumens: 7268.6 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 88.779
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



TEST NUMBER: P392649
CATALOG NUMBER: MWL-4-26-60-UNV-L930-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	69				
1	102	98	94	91	97	93	89	86	83	80	78	74	72	70	66	64	63	59				
2	94	86	80	75	88	82	76	72	73	69	65	66	62	59	59	56	54	50				
3	86	76	69	63	81	72	66	60	65	60	56	59	54	51	52	49	46	43				
4	79	68	60	54	74	65	57	52	58	52	48	52	48	44	47	43	40	37				
5	73	61	53	47	68	58	50	45	52	46	42	47	42	39	43	39	35	33				
6	67	55	47	41	63	52	45	39	48	41	37	43	38	34	39	35	31	29				
7	62	50	42	36	59	48	40	35	43	37	33	39	34	30	36	31	28	26				
8	58	45	38	32	55	43	36	31	40	34	29	36	31	27	33	29	25	23				
9	54	42	34	29	51	40	33	28	37	31	26	33	28	25	30	26	23	21				
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14036	14036	14036	14036
5°	13858	12909	13858	12909
10°	13643	11837	13643	11837
15°	13336	10847	13324	10847
20°	12944	9919	12932	9919
25°	12390	9029	12377	9029
30°	11695	8172	11677	8172
35°	10964	7333	10950	7333
40°	10251	6532	10231	6532
45°	9617	5642	9601	5642
50°	8926	4626	8908	4626
55°	8316	3485	8303	3485
60°	7649	2587	7642	2587
65°	6876	1961	6876	1961
70°	5912	1450	5922	1450
75°	5186	1055	5221	1055
80°	5169	682	4884	682
85°	6566	306	5148	306



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.9	2.8
10°-20°	577.8	7.9
20°-30°	847.2	11.7
30°-40°	959.1	13.2
40°-50°	903.4	12.4
50°-60°	722.3	9.9
60°-70°	474.3	6.5
70°-80°	242.1	3.3
80°-90°	118.2	1.6
90°-100°	98.5	1.4
100°-110°	146.1	2.0
110°-120°	244.4	3.4
120°-130°	331.6	4.6
130°-140°	377.9	5.2
140°-150°	376.7	5.2
150°-160°	327.8	4.5
160°-170°	230.5	3.2
170°-180°	85.8	1.2
0°-30°	1629.9	22.4
0°-40°	2589.0	35.6
0°-60°	4214.7	58.0
0°-90°	5049.3	69.5
90°-120°	488.9	6.7
90°-150°	1575.1	21.7
90°-180°	2219.0	30.5
0°-180°	7268.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2173	2173	2173	2173	2173	
5°	2157	2165	2157	2165	2157	205
15°	2050	2057	2048	2057	2050	577
25°	1823	1858	1821	1858	1823	838
35°	1492	1581	1490	1581	1492	933
45°	1163	1236	1161	1236	1163	896
55°	848	752	847	752	848	761
65°	550	404	550	404	550	544
75°	289	200	291	200	289	316
85°	194	51	152	51	194	165
90°	193	2	97	2	193	107
95°	212	27	59	27	212	180
105°	287	129	16	129	287	304
115°	394	262	92	262	394	391
125°	493	410	225	410	493	440
135°	573	560	361	560	573	442
145°	630	700	486	700	630	397
155°	702	809	609	809	702	324
165°	768	880	742	880	768	218
175°	906	918	886	918	906	84
180°	916	916	916	916	916	



TEST NUMBER: P392649

CATALOG NUMBER: MWL-4-26-60-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3
2.5°	2165.4	2171.0	2163.7	2175.5	2176.2	2174.7	2163.7	2171.0	2166.0	2171.0	2163.7
5°	2157.0	2161.6	2154.5	2164.6	2165.4	2164.6	2153.8	2161.6	2157.0	2161.6	2153.8
7.5°	2139.8	2144.5	2136.0	2148.5	2147.7	2147.9	2135.5	2143.9	2139.8	2143.9	2135.5
10°	2118.6	2117.4	2112.4	2123.3	2123.3	2122.8	2111.8	2116.2	2118.6	2116.2	2111.8
12.5°	2086.9	2087.8	2084.8	2093.2	2091.6	2093.2	2084.8	2086.6	2085.6	2086.6	2084.8
15°	2050.3	2048.1	2045.8	2057.6	2057.0	2057.0	2045.1	2046.9	2048.4	2046.9	2045.1
17.5°	2005.5	2005.9	2002.8	2013.9	2014.8	2013.9	2002.1	2005.3	2003.6	2005.3	2002.1
20°	1954.8	1955.0	1955.4	1967.4	1968.5	1966.9	1954.7	1953.7	1952.9	1953.7	1954.7
22.5°	1892.5	1899.2	1901.4	1915.9	1914.4	1915.3	1900.6	1897.9	1891.1	1897.9	1900.6
25°	1823.2	1829.1	1841.0	1858.4	1857.8	1857.8	1839.8	1827.1	1821.2	1827.1	1839.8
27.5°	1750.4	1758.9	1776.8	1798.2	1797.8	1797.5	1775.5	1756.9	1748.5	1756.9	1775.5
30°	1662.6	1673.6	1700.6	1728.7	1728.5	1727.4	1698.7	1671.6	1660.0	1671.6	1698.7
32.5°	1581.4	1589.8	1621.2	1657.6	1657.3	1656.4	1619.2	1587.4	1578.9	1587.4	1619.2
35°	1492.0	1500.5	1532.6	1578.2	1581.4	1576.4	1530.7	1498.6	1490.2	1498.6	1530.7
37.5°	1403.3	1408.4	1440.4	1494.6	1502.6	1492.7	1438.6	1406.5	1401.4	1406.5	1438.6
40°	1322.2	1317.1	1339.1	1401.8	1424.8	1400.5	1336.5	1314.5	1319.6	1314.5	1336.5
42.5°	1241.0	1230.9	1241.2	1304.6	1333.5	1303.3	1239.3	1228.3	1238.4	1228.3	1239.3
45°	1162.6	1140.7	1141.5	1201.5	1235.5	1200.2	1138.9	1138.8	1160.7	1138.8	1138.9
47.5°	1083.2	1062.1	1053.6	1098.6	1135.8	1098.0	1051.0	1060.1	1081.3	1060.1	1051.0
50°	998.7	985.1	963.2	993.7	1009.2	992.5	960.5	982.5	996.7	982.5	960.5
52.5°	928.5	911.6	879.7	891.5	884.1	890.3	877.7	909.0	926.6	909.0	877.7
55°	848.4	839.1	802.8	785.2	751.6	783.9	800.8	837.2	847.1	837.2	800.8
57.5°	777.4	769.8	723.3	683.8	640.0	682.5	721.4	767.9	776.2	767.9	721.4
60°	699.0	699.0	643.3	580.1	547.1	579.4	641.9	697.7	698.4	697.7	641.9
62.5°	623.8	621.3	562.1	487.1	472.9	486.4	560.8	620.0	623.1	620.0	560.8
65°	550.5	538.6	481.2	407.7	403.5	407.0	480.5	538.0	550.5	538.0	480.5
67.5°	474.4	460.1	403.4	338.5	346.1	338.5	402.7	459.4	474.4	459.4	402.7
70°	402.7	382.5	336.0	279.3	287.7	279.3	336.0	383.1	403.4	383.1	336.0
72.5°	343.6	310.6	270.0	228.7	241.5	228.0	270.0	311.3	344.9	311.3	270.0
75°	288.6	251.5	209.5	183.2	200.1	183.2	210.0	252.1	290.6	252.1	210.0
77.5°	253.2	208.4	163.8	141.8	160.4	141.8	164.4	206.5	250.7	206.5	164.4
80°	221.1	180.2	131.9	105.5	122.4	105.5	130.6	169.9	208.9	169.9	130.6
82.5°	204.5	166.6	115.1	75.9	84.4	75.9	107.4	143.3	180.0	143.3	107.4
85°	194.1	163.2	112.4	60.1	51.4	58.7	93.8	123.7	152.2	123.7	93.8
87.5°	190.3	168.4	114.3	57.9	16.9	48.9	77.4	106.5	123.8	106.5	77.4
90°	193.4	176.8	124.8	57.9	1.5	33.4	60.9	85.8	96.6	85.8	60.9
92.5°	202.4	190.5	137.7	63.6	11.2	19.0	49.3	71.1	75.9	71.1	49.3
95°	212.4	208.5	152.8	73.0	26.6	8.5	36.6	58.7	59.4	58.7	36.6
97.5°	227.3	224.0	168.4	92.0	46.7	9.5	25.9	46.6	46.6	46.6	25.9
100°	240.6	238.3	185.7	119.7	72.0	23.0	14.6	35.6	37.2	35.6	14.6
102.5°	265.6	255.3	205.4	146.3	98.4	41.6	13.1	22.9	25.4	22.9	13.1
105°	287.2	274.8	236.2	174.0	128.8	66.8	27.7	15.4	15.5	15.4	27.7
107.5°	309.0	300.9	264.5	202.4	161.1	95.9	49.6	27.3	20.0	27.3	49.6
110°	339.6	331.9	292.3	230.8	194.7	126.9	74.8	47.9	37.6	47.9	74.8



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CATALOG NUMBER: MWL-4-26-60-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	370.6	364.8	318.1	260.5	229.5	160.4	105.8	73.7	64.1	73.7	105.8
115°	394.5	390.4	347.8	288.2	261.8	198.6	140.0	103.2	92.5	103.2	140.0
117.5°	419.6	418.2	369.8	317.4	301.3	233.6	171.7	133.6	122.1	133.6	171.7
120°	451.3	446.1	400.1	345.9	338.2	269.7	206.5	169.2	157.0	169.2	206.5
122.5°	473.2	470.0	425.9	373.0	373.0	306.5	240.0	202.8	189.9	202.8	240.0
125°	493.3	491.9	446.1	400.1	410.4	340.7	278.3	239.6	225.4	239.6	278.3
127.5°	511.2	513.2	471.2	429.8	448.4	375.6	315.0	272.5	257.7	272.5	315.0
130°	526.8	533.2	495.2	456.9	484.6	413.7	348.1	305.4	295.8	305.4	348.1
132.5°	557.2	553.2	519.7	485.5	523.4	449.3	382.8	338.3	327.4	338.3	382.8
135°	572.6	573.9	541.0	509.4	559.5	484.2	415.8	371.9	360.9	371.9	415.8
137.5°	591.3	587.4	557.7	538.3	593.1	517.7	448.0	407.4	390.0	407.4	448.0
140°	604.9	604.2	579.7	564.2	629.1	550.7	481.0	439.6	423.5	439.6	481.0
142.5°	619.1	623.7	601.6	592.7	665.3	585.5	516.5	472.1	455.8	472.1	516.5
145°	629.6	637.9	623.6	628.1	699.6	624.3	547.4	502.5	485.7	502.5	547.4
147.5°	645.8	656.7	639.7	653.2	729.2	658.4	578.4	534.1	519.2	534.1	578.4
150°	666.9	672.0	662.3	688.1	759.6	696.5	610.0	563.6	548.7	563.6	610.0
152.5°	684.2	690.7	679.7	726.1	783.4	731.3	644.9	593.2	575.8	593.2	644.9
155°	702.4	704.8	697.2	763.0	809.4	765.6	672.6	626.2	609.4	626.2	672.6
157.5°	719.1	724.2	715.2	790.8	831.4	795.3	704.3	659.1	644.2	659.1	704.3
160°	737.2	737.2	742.3	823.0	849.5	821.1	737.9	695.2	674.6	695.2	737.9
162.5°	739.1	751.3	779.1	845.6	866.9	843.7	774.0	721.0	702.9	721.0	774.0
165°	767.5	778.5	820.4	865.6	880.4	863.7	818.5	763.7	742.3	763.7	818.5
167.5°	797.2	820.4	854.0	889.0	894.2	883.2	852.7	814.6	795.3	814.6	852.7
170°	844.8	865.6	882.3	896.6	904.5	897.2	874.0	855.2	842.1	855.2	874.0
172.5°	881.9	896.6	903.0	912.9	908.4	905.8	893.4	884.3	876.2	884.3	893.4
175°	905.9	910.1	915.9	913.5	917.5	910.3	910.1	914.7	886.5	914.7	910.1
177.5°	914.2	920.5	917.2	912.3	912.9	911.6	913.4	915.9	910.3	915.9	913.4
180°	915.9	915.9	915.9	915.9	915.9	915.9	915.9	915.9	915.9	915.9	915.9



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CATALOG NUMBER: MWL-4-26-60-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2173.3	2173.3	2173.3	2173.3	2173.3	2173.3
2.5°	2174.7	2176.2	2175.5	2163.7	2171.0	2165.4
5°	2164.6	2165.4	2164.6	2154.5	2161.6	2157.0
7.5°	2147.9	2147.7	2148.5	2136.0	2144.5	2139.8
10°	2122.8	2123.3	2123.3	2112.4	2117.4	2118.6
12.5°	2093.2	2091.6	2093.2	2084.8	2087.8	2086.9
15°	2057.0	2057.0	2057.6	2045.8	2048.1	2050.3
17.5°	2013.9	2014.8	2013.9	2002.8	2005.9	2005.5
20°	1966.9	1968.5	1967.4	1955.4	1955.0	1954.8
22.5°	1915.3	1914.4	1915.9	1901.4	1899.2	1892.5
25°	1857.8	1857.8	1858.4	1841.0	1829.1	1823.2
27.5°	1797.5	1797.8	1798.2	1776.8	1758.9	1750.4
30°	1727.4	1728.5	1728.7	1700.6	1673.6	1662.6
32.5°	1656.4	1657.3	1657.6	1621.2	1589.8	1581.4
35°	1576.4	1581.4	1578.2	1532.6	1500.5	1492.0
37.5°	1492.7	1502.6	1494.6	1440.4	1408.4	1403.3
40°	1400.5	1424.8	1401.8	1339.1	1317.1	1322.2
42.5°	1303.3	1333.5	1304.6	1241.2	1230.9	1241.0
45°	1200.2	1235.5	1201.5	1141.5	1140.7	1162.6
47.5°	1098.0	1135.8	1098.6	1053.6	1062.1	1083.2
50°	992.5	1009.2	993.7	963.2	985.1	998.7
52.5°	890.3	884.1	891.5	879.7	911.6	928.5
55°	783.9	751.6	785.2	802.8	839.1	848.4
57.5°	682.5	640.0	683.8	723.3	769.8	777.4
60°	579.4	547.1	580.1	643.3	699.0	699.0
62.5°	486.4	472.9	487.1	562.1	621.3	623.8
65°	407.0	403.5	407.7	481.2	538.6	550.5
67.5°	338.5	346.1	338.5	403.4	460.1	474.4
70°	279.3	287.7	279.3	336.0	382.5	402.7
72.5°	228.0	241.5	228.7	270.0	310.6	343.6
75°	183.2	200.1	183.2	209.5	251.5	288.6
77.5°	141.8	160.4	141.8	163.8	208.4	253.2
80°	105.5	122.4	105.5	131.9	180.2	221.1
82.5°	75.9	84.4	75.9	115.1	166.6	204.5
85°	58.7	51.4	60.1	112.4	163.2	194.1
87.5°	48.9	16.9	57.9	114.3	168.4	190.3
90°	33.4	1.5	57.9	124.8	176.8	193.4
92.5°	19.0	11.2	63.6	137.7	190.5	202.4
95°	8.5	26.6	73.0	152.8	208.5	212.4
97.5°	9.5	46.7	92.0	168.4	224.0	227.3
100°	23.0	72.0	119.7	185.7	238.3	240.6
102.5°	41.6	98.4	146.3	205.4	255.3	265.6
105°	66.8	128.8	174.0	236.2	274.8	287.2
107.5°	95.9	161.1	202.4	264.5	300.9	309.0
110°	126.9	194.7	230.8	292.3	331.9	339.6



TEST NUMBER: P392649

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.4	229.5	260.5	318.1	364.8	370.6
115°	198.6	261.8	288.2	347.8	390.4	394.5
117.5°	233.6	301.3	317.4	369.8	418.2	419.6
120°	269.7	338.2	345.9	400.1	446.1	451.3
122.5°	306.5	373.0	373.0	425.9	470.0	473.2
125°	340.7	410.4	400.1	446.1	491.9	493.3
127.5°	375.6	448.4	429.8	471.2	513.2	511.2
130°	413.7	484.6	456.9	495.2	533.2	526.8
132.5°	449.3	523.4	485.5	519.7	553.2	557.2
135°	484.2	559.5	509.4	541.0	573.9	572.6
137.5°	517.7	593.1	538.3	557.7	587.4	591.3
140°	550.7	629.1	564.2	579.7	604.2	604.9
142.5°	585.5	665.3	592.7	601.6	623.7	619.1
145°	624.3	699.6	628.1	623.6	637.9	629.6
147.5°	658.4	729.2	653.2	639.7	656.7	645.8
150°	696.5	759.6	688.1	662.3	672.0	666.9
152.5°	731.3	783.4	726.1	679.7	690.7	684.2
155°	765.6	809.4	763.0	697.2	704.8	702.4
157.5°	795.3	831.4	790.8	715.2	724.2	719.1
160°	821.1	849.5	823.0	742.3	737.2	737.2
162.5°	843.7	866.9	845.6	779.1	751.3	739.1
165°	863.7	880.4	865.6	820.4	778.5	767.5
167.5°	883.2	894.2	889.0	854.0	820.4	797.2
170°	897.2	904.5	896.6	882.3	865.6	844.8
172.5°	905.8	908.4	912.9	903.0	896.6	881.9
175°	910.3	917.5	913.5	915.9	910.1	905.9
177.5°	911.6	912.9	912.3	917.2	920.5	914.2
180°	915.9	915.9	915.9	915.9	915.9	915.9

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