

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: io LED

Report Number: P397269

Luminaire Tested: **4VRVT2-LD5-6-DR-W-UNV-LG52-CD1-WL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P397269
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 4VRVT2-LD5-6-DR-W-UNV-LG52-CD1-WL-U
Description:
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4744.7 lumens
Efficiency: N/A
Efficacy: 39.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.6 / 1.58
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')
CIE Type: Semi-Direct

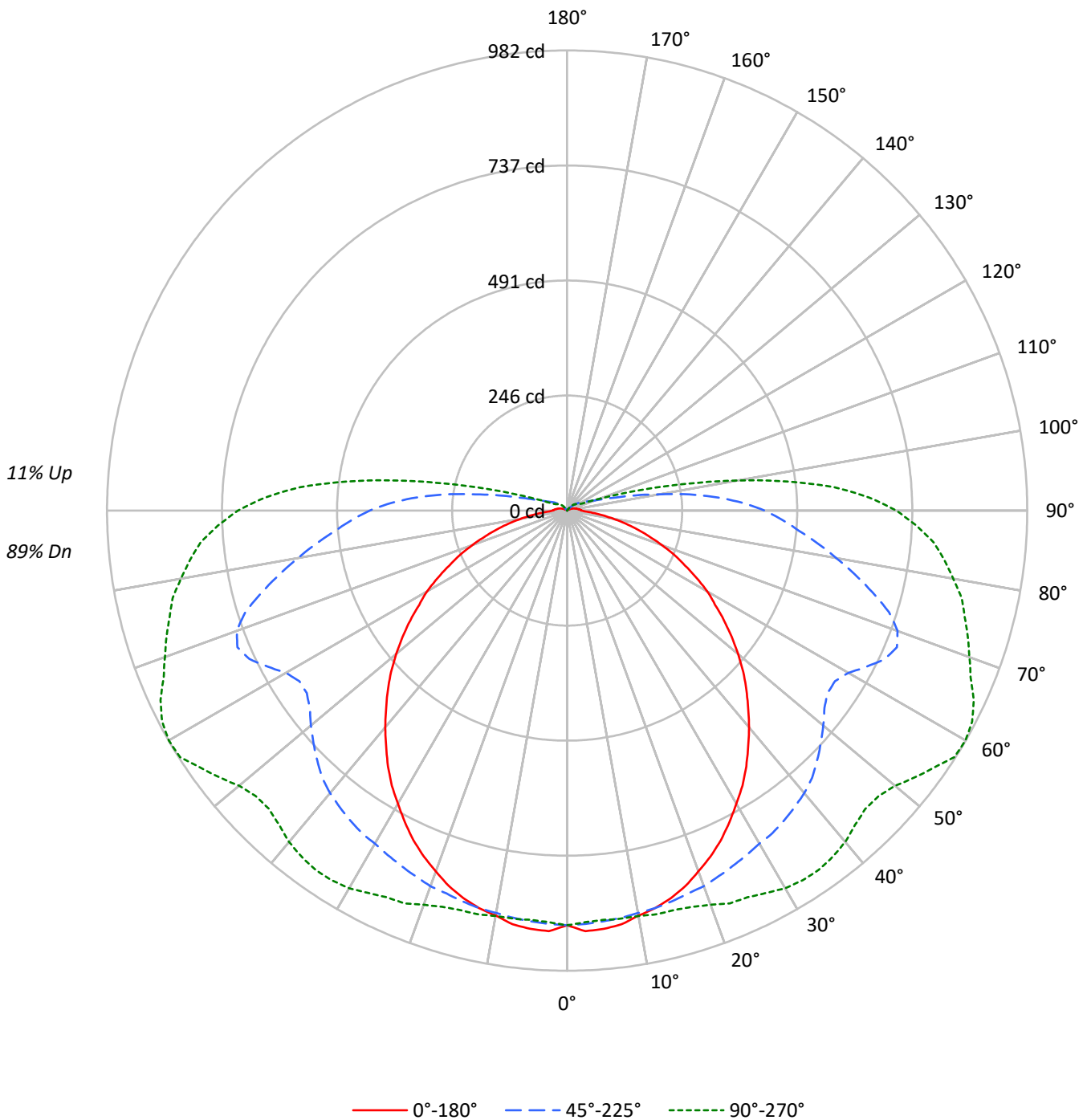
Input Watts (W): 120.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	101	94	88	82	97	91	85	80	84	80	75	78	75	71	73	70	67	64
2	90	79	70	63	86	76	68	61	71	64	58	66	60	55	61	56	52	49
3	81	68	58	50	77	65	56	49	61	53	47	56	50	44	52	47	42	39
4	73	59	49	41	70	57	48	40	53	45	38	49	42	37	46	40	35	32
5	67	52	42	35	64	51	41	34	47	39	32	44	37	31	41	35	30	27
6	62	47	37	30	59	45	36	29	42	34	28	39	32	27	37	30	26	23
7	57	42	32	26	54	41	32	25	38	30	24	36	29	23	33	27	22	20
8	53	38	29	23	51	37	28	22	35	27	21	33	26	21	31	24	20	18
9	49	35	26	20	47	34	25	20	32	24	19	30	23	18	28	22	18	16
10	46	32	24	18	44	31	23	18	29	22	17	28	21	17	26	20	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4571	4571	4571
5°	4631	4461	4419
10°	4572	4371	4353
15°	4530	4312	4333
20°	4440	4278	4389
25°	4343	4248	4492
30°	4213	4249	4655
35°	4089	4297	4786
40°	3941	4347	4866
45°	3800	4361	4932
50°	3652	4363	5256
55°	3483	4438	5834
60°	3340	4913	6431
65°	3126	5845	6827
70°	2929	6570	7204
75°	2710	6781	7814
80°	2406	6949	8614
85°	2213	7331	9682



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.2	1.8
10°-20°	245.5	5.2
20°-30°	389.2	8.2
30°-40°	504.0	10.6
40°-50°	570.6	12.0
50°-60°	619.6	13.1
60°-70°	662.5	14.0
70°-80°	630.7	13.3
80°-90°	518.1	10.9
90°-100°	340.8	7.2
100°-110°	118.5	2.5
110°-120°	35.0	0.7
120°-130°	17.4	0.4
130°-140°	7.4	0.2
140°-150°	1.2	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	718.9	15.2
0°-40°	1222.8	25.8
0°-60°	2413.1	50.9
0°-90°	4224.3	89.0
90°-120°	494.3	10.4
90°-150°	520.4	11.0
90°-180°	520.0	11.0
0°-180°	4744.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	885	885	885	885	885	
5°	896	890	880	881	877	85
15°	856	857	863	882	882	241
25°	776	792	837	893	910	357
35°	666	708	807	904	936	416
45°	541	610	754	863	900	417
55°	409	501	678	889	956	366
65°	278	395	749	926	958	276
75°	156	376	674	822	878	164
85°	54	272	497	708	786	54
90°	30	202	422	633	702	17
95°	26	145	322	499	572	21
105°	18	51	109	151	179	18
115°	9	23	46	42	36	9
125°	3	8	27	28	24	3
135°	2	0	11	17	16	1
145°	1	0	0	3	3	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P397269

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8
2.5°	898.4	896.0	893.6	892.8	892.8	892.8	892.8	891.2	888.8	886.4	883.2
5°	896.0	894.4	892.0	890.4	890.4	890.4	890.4	888.8	886.4	883.2	880.0
7.5°	890.4	888.0	884.8	884.0	883.2	883.2	884.0	883.2	880.8	879.2	876.8
10°	877.6	876.8	874.4	873.6	875.2	876.0	876.0	876.0	875.2	873.6	872.0
12.5°	868.8	865.6	864.0	864.8	865.6	865.6	867.2	868.0	868.0	868.8	868.8
15°	856.0	852.8	852.0	854.4	855.2	856.8	856.8	858.4	859.2	861.6	863.2
17.5°	840.0	839.2	836.0	838.4	842.4	844.8	844.8	848.0	850.4	852.8	856.8
20°	819.2	818.4	816.8	820.0	824.8	827.2	831.2	836.0	839.2	848.0	852.8
22.5°	799.2	798.4	796.0	800.8	805.6	811.2	816.0	822.4	829.6	837.6	844.8
25°	776.0	775.2	774.4	782.4	788.0	792.0	797.6	807.2	816.0	827.2	836.8
27.5°	749.6	750.4	752.0	759.2	768.0	773.6	779.2	792.8	802.4	814.4	828.8
30°	722.4	722.4	727.2	734.4	747.2	752.8	760.0	776.0	785.6	804.0	820.8
32.5°	696.0	696.0	698.4	707.2	724.0	731.2	740.0	755.2	771.2	793.6	816.0
35°	666.4	666.4	671.2	683.2	700.0	708.0	717.6	736.8	756.8	782.4	807.2
37.5°	634.4	636.0	644.0	656.8	676.8	687.2	695.2	716.8	741.6	769.6	797.6
40°	604.0	605.6	615.2	629.6	651.2	660.8	671.2	698.4	724.0	754.4	787.2
42.5°	572.0	576.8	585.6	602.4	623.2	633.6	648.0	676.0	704.8	737.6	773.6
45°	540.8	544.8	554.4	573.6	596.8	609.6	624.8	654.4	686.4	719.2	754.4
47.5°	509.6	512.8	524.8	543.2	568.0	584.8	600.8	632.0	666.4	703.2	734.4
50°	476.0	480.0	492.0	512.0	540.0	556.8	572.8	607.2	642.4	679.2	713.6
52.5°	442.4	446.4	462.4	484.8	513.6	528.8	547.2	584.0	619.2	656.8	692.0
55°	408.8	413.6	430.4	450.4	482.4	500.8	517.6	556.8	595.2	635.2	678.4
57.5°	374.4	381.6	396.8	421.6	452.0	471.2	489.6	531.2	572.0	620.8	677.6
60°	345.6	348.0	363.2	389.6	423.2	442.4	464.0	506.4	557.6	620.0	692.8
62.5°	311.2	319.2	332.0	359.2	393.6	417.6	439.2	491.2	554.4	637.6	720.8
65°	277.6	285.6	301.6	331.2	371.2	395.2	420.8	485.6	567.2	664.0	748.8
67.5°	248.0	254.4	272.0	306.4	351.2	378.4	412.8	493.6	591.2	688.8	761.6
70°	215.2	223.2	244.0	283.2	338.4	372.0	414.4	511.2	611.2	696.0	750.4
72.5°	183.2	193.6	220.0	266.4	331.2	372.8	422.4	523.2	613.6	676.8	720.0
75°	156.0	164.8	197.6	252.0	329.6	376.0	427.2	518.4	588.8	634.4	674.4
77.5°	127.2	139.2	180.8	242.4	326.4	372.8	416.0	488.8	546.4	590.4	628.8
80°	99.2	116.8	162.4	229.6	311.2	346.4	381.6	443.2	496.8	541.6	583.2
82.5°	76.0	95.2	144.8	212.0	278.4	310.4	341.6	396.8	444.8	495.2	540.0
85°	54.4	76.0	126.4	184.8	241.6	272.0	296.8	348.8	395.2	447.2	496.8
87.5°	37.6	60.0	104.0	156.0	208.0	232.0	256.8	306.4	355.2	408.0	460.0
90°	30.4	48.8	87.2	133.6	180.0	202.4	227.2	274.4	320.0	370.4	421.6
92.5°	28.8	40.0	72.8	112.0	154.4	176.0	196.0	238.4	283.2	332.0	375.2
95°	26.4	32.0	58.4	91.2	126.4	144.8	162.4	200.0	239.2	283.2	322.4
97.5°	24.0	26.4	44.8	70.4	100.0	115.2	129.6	158.4	193.6	224.8	264.0
100°	21.6	22.4	33.6	54.4	76.0	88.8	100.0	125.6	148.8	173.6	199.2
102.5°	19.2	19.2	25.6	40.8	59.2	67.2	76.8	95.2	112.8	128.8	149.6
105°	17.6	17.6	20.8	30.4	44.0	51.2	58.4	72.8	86.4	97.6	108.8
107.5°	15.2	15.2	16.8	24.0	34.4	40.8	45.6	56.8	67.2	75.2	81.6
110°	12.8	12.8	12.8	19.2	28.0	32.8	38.4	47.2	54.4	60.0	64.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	10.4	10.4	10.4	16.0	23.2	27.2	32.0	39.2	45.6	49.6	52.8
115°	8.8	8.8	8.0	12.0	19.2	23.2	27.2	33.6	39.2	43.2	45.6
117.5°	7.2	7.2	6.4	8.8	15.2	19.2	22.4	28.8	34.4	38.4	40.0
120°	5.6	5.6	4.8	5.6	12.0	15.2	19.2	24.8	29.6	33.6	36.0
122.5°	4.0	4.0	4.0	4.0	8.0	11.2	14.4	20.0	25.6	29.6	32.0
125°	3.2	3.2	3.2	2.4	5.6	8.0	11.2	16.8	20.8	24.8	27.2
127.5°	2.4	2.4	2.4	2.4	2.4	4.8	7.2	12.8	16.8	20.8	23.2
130°	2.4	2.4	1.6	1.6	1.6	2.4	4.8	8.8	12.8	16.0	19.2
132.5°	1.6	1.6	1.6	0.8	0.8	0.8	2.4	5.6	9.6	12.8	15.2
135°	1.6	1.6	0.8	0.8	0.0	0.0	0.0	3.2	6.4	8.8	11.2
137.5°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.8	3.2	5.6	8.0
140°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.8	3.2	4.8
142.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6
145°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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°	67.5°	70°	75°	80°	85°	90°
0°	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8	884.8
2.5°	882.4	883.2	884.0	884.0	883.2	883.2	881.6	881.6	880.0	879.2
5°	879.2	880.8	881.6	881.6	880.8	880.8	880.0	879.2	877.6	876.8
7.5°	876.8	879.2	880.8	880.8	880.8	880.8	880.0	880.0	879.2	878.4
10°	873.6	876.0	878.4	881.6	882.4	882.4	881.6	880.8	879.2	878.4
12.5°	870.4	873.6	876.8	880.0	880.8	881.6	883.2	883.2	882.4	882.4
15°	867.2	872.8	877.6	881.6	882.4	884.8	885.6	886.4	884.8	882.4
17.5°	864.0	871.2	875.2	881.6	883.2	884.8	886.4	887.2	887.2	886.4
20°	860.8	869.6	876.8	883.2	884.8	887.2	890.4	892.8	895.2	895.2
22.5°	856.0	867.2	875.2	884.8	890.4	892.8	899.2	902.4	904.0	907.2
25°	849.6	861.6	877.6	888.8	892.8	897.6	907.2	912.0	912.0	910.4
27.5°	846.4	864.8	880.8	892.0	897.6	903.2	912.0	919.2	921.6	920.0
30°	842.4	862.4	880.8	895.2	901.6	908.8	917.6	928.8	930.4	930.4
32.5°	837.6	859.2	880.8	896.8	904.8	911.2	921.6	932.0	936.0	935.2
35°	832.8	856.8	877.6	895.2	904.0	912.0	924.0	932.0	935.2	936.0
37.5°	825.6	851.2	872.0	891.2	900.8	908.0	920.8	926.4	931.2	931.2
40°	815.2	841.6	864.8	883.2	890.4	897.6	909.6	916.0	920.0	923.2
42.5°	803.2	828.8	851.2	867.2	876.8	882.4	896.0	902.4	908.8	909.6
45°	784.8	812.8	834.4	854.4	863.2	868.8	884.0	894.4	900.0	900.0
47.5°	765.6	792.0	817.6	842.4	852.8	862.4	880.0	892.8	899.2	901.6
50°	744.0	776.8	807.2	839.2	852.8	864.8	885.6	900.0	908.0	913.6
52.5°	730.4	772.8	810.4	848.0	863.2	879.2	905.6	920.8	932.0	935.2
55°	728.8	780.0	826.4	871.2	888.8	904.0	932.0	948.8	957.6	956.0
57.5°	740.8	803.2	857.6	898.4	917.6	932.0	957.6	972.8	979.2	979.2
60°	767.2	833.6	886.4	922.4	937.6	951.2	969.6	980.0	983.2	981.6
62.5°	794.4	855.2	899.2	928.8	940.0	946.4	961.6	969.6	972.8	974.4
65°	816.0	865.6	896.0	917.6	926.4	932.8	944.8	954.4	956.0	957.6
67.5°	813.6	848.0	875.2	895.2	902.4	908.8	920.8	928.0	933.6	932.0
70°	791.2	818.4	844.0	864.8	872.8	881.6	896.0	907.2	909.6	913.6
72.5°	752.0	780.0	811.2	832.0	846.4	855.2	872.8	887.2	892.8	896.8
75°	711.2	744.0	775.2	806.4	821.6	836.0	856.8	867.2	880.8	878.4
77.5°	668.0	710.4	747.2	782.4	798.4	813.6	835.2	849.6	858.4	862.4
80°	631.2	676.0	716.8	754.4	769.6	787.2	809.6	824.8	834.4	836.8
82.5°	589.6	638.4	684.8	724.0	740.0	755.2	780.8	796.8	808.8	812.0
85°	548.8	600.8	648.8	691.2	708.0	724.8	752.0	769.6	780.8	785.6
87.5°	514.4	563.2	612.0	652.0	672.0	688.0	715.2	736.0	746.4	746.4
90°	472.0	521.6	570.4	610.4	632.8	644.0	671.2	690.4	703.2	702.4
92.5°	427.2	474.4	515.2	555.2	573.6	588.0	616.8	631.2	642.4	644.8
95°	366.4	408.8	451.2	484.8	499.2	521.6	543.2	561.6	568.8	572.0
97.5°	295.2	337.6	367.2	408.0	417.6	432.8	455.2	470.4	477.6	475.2
100°	226.4	254.4	277.6	303.2	318.4	328.0	347.2	362.4	370.4	369.6
102.5°	160.8	183.2	200.0	220.0	221.6	230.4	242.4	257.6	260.8	264.8
105°	119.2	128.0	140.8	148.0	151.2	161.6	164.0	170.4	171.2	179.2
107.5°	88.8	93.6	98.4	102.4	104.8	105.6	112.0	111.2	112.8	114.4
110°	67.2	69.6	72.8	71.2	74.4	72.0	73.6	72.8	73.6	73.6



TEST NUMBER: P397269

CATALOG NUMBER: 4VRVT2-LD5-6-DR-W-UNV-LG52-CD1-WL-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	54.4	54.4	53.6	52.8	52.8	52.0	52.0	49.6	50.4	49.6
115°	46.4	45.6	44.0	42.4	42.4	40.8	40.0	37.6	36.8	36.0
117.5°	40.8	40.0	38.4	36.8	36.0	35.2	33.6	31.2	30.4	30.4
120°	36.8	36.0	35.2	33.6	32.8	32.0	29.6	28.8	27.2	27.2
122.5°	32.8	32.8	32.0	30.4	30.4	29.6	28.0	26.4	25.6	25.6
125°	28.8	29.6	28.8	28.0	28.0	27.2	26.4	24.8	24.0	24.0
127.5°	24.8	25.6	25.6	25.6	25.6	24.8	24.0	23.2	22.4	22.4
130°	20.8	22.4	22.4	22.4	23.2	22.4	22.4	21.6	20.8	20.8
132.5°	16.8	18.4	19.2	20.0	20.0	20.0	19.2	19.2	18.4	18.4
135°	12.8	14.4	16.0	16.0	16.8	16.8	16.8	16.8	16.0	16.0
137.5°	9.6	11.2	12.0	12.8	12.8	13.6	13.6	13.6	12.8	12.8
140°	6.4	8.0	8.8	9.6	9.6	10.4	10.4	10.4	9.6	9.6
142.5°	3.2	4.8	5.6	6.4	6.4	6.4	7.2	7.2	7.2	6.4
145°	0.8	1.6	2.4	3.2	3.2	3.2	4.0	4.0	4.0	3.2
147.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)