

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: METALUX

Report Number: P#

Luminaire Tested: **4SNLED-LD5-54HL-LW-UNV-L930-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33520)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
WIDE FROSTED LENS
Light Source: -
Ballast/Driver: -

Summary

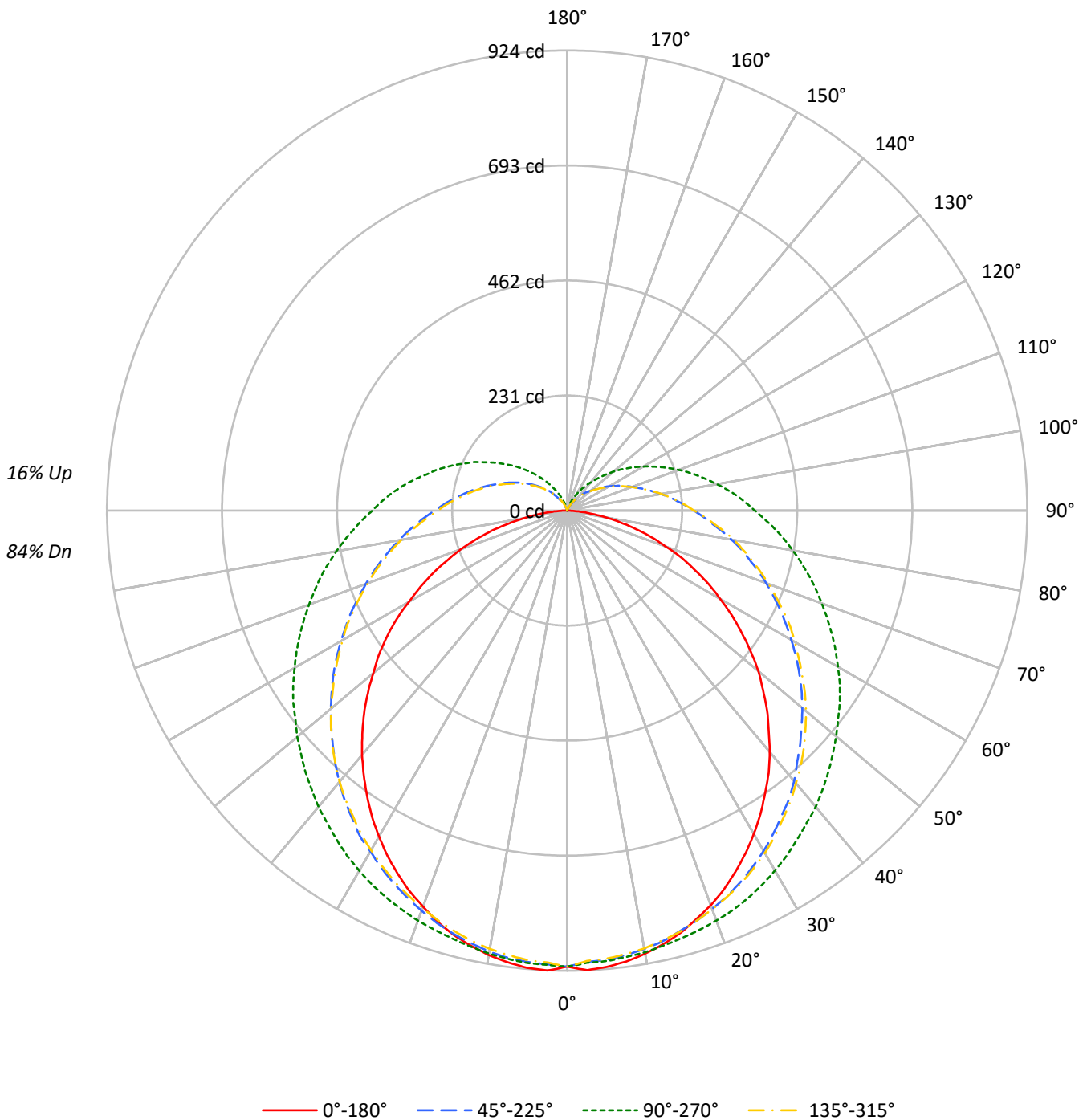
Lumens per Lamp: N/A
Luminaire Lumens: 3979.0 lumens
Efficiency: N/A
Efficacy: 92.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Semi-Direct

Input Watts (W): 43
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: P#
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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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	115	115	115	115	111	111	111	111	102	102	102	94	94	94	87	87	87	84																												
1	102	96	91	86	98	92	87	83	85	81	77	78	75	72	72	70	67	64																												
2	92	82	74	68	87	79	72	66	73	67	62	67	62	58	62	58	54	51																												
3	83	71	62	55	79	69	60	54	63	56	51	58	52	48	54	49	45	42																												
4	76	63	53	46	72	60	52	45	56	48	42	51	45	40	47	42	38	35																												
5	69	56	46	39	66	54	45	38	50	42	36	46	39	34	42	37	33	30																												
6	64	50	41	34	61	48	39	33	45	37	31	41	35	30	38	33	28	26																												
7	59	45	36	30	56	43	35	29	40	33	28	38	31	26	35	29	25	23																												
8	55	41	32	26	52	40	31	26	37	30	24	34	28	23	32	26	22	20																												
9	51	37	29	23	49	36	28	23	34	27	22	32	25	21	30	24	20	18																												
10	48	34	26	21	46	33	26	21	31	24	20	29	23	19	27	22	18	16																												

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	7401	7401	7401	7401
5°	7440	7132	7456	7163
10°	7372	6930	7395	6952
15°	7286	6756	7318	6764
20°	7171	6629	7196	6629
25°	7030	6517	7072	6510
30°	6872	6401	6925	6401
35°	6687	6294	6762	6302
40°	6505	6231	6584	6231
45°	6296	6165	6392	6173
50°	6077	6125	6160	6143
55°	5772	6131	5954	6158
60°	5451	6151	5628	6188
65°	5089	6212	5315	6274
70°	4582	6326	4939	6416
75°	3999	6533	4376	6658
80°	3095	6840	3514	6998
85°	1851	7331	2309	7534



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	2.2
10°-20°	249.3	6.3
20°-30°	382.3	9.6
30°-40°	471.6	11.9
40°-50°	511.7	12.9
50°-60°	504.3	12.7
60°-70°	456.0	11.5
70°-80°	379.9	9.5
80°-90°	294.2	7.4
90°-100°	223.1	5.6
100°-110°	165.1	4.1
110°-120°	114.9	2.9
120°-130°	73.3	1.8
130°-140°	41.1	1.0
140°-150°	18.8	0.5
150°-160°	5.8	0.1
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	718.4	18.1
0°-40°	1190.0	29.9
0°-60°	2206.1	55.4
0°-90°	3336.1	83.8
90°-120°	503.1	12.6
90°-150°	636.3	16.0
90°-180°	643.0	16.2
0°-180°	3979.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	916	916	916	916	916	
5°	920	908	922	912	920	87
15°	878	889	882	890	878	247
25°	800	859	805	858	800	368
35°	693	806	700	807	693	434
45°	568	742	577	743	568	438
55°	428	668	442	671	428	383
65°	284	586	297	592	284	281
75°	143	502	156	512	143	151
85°	27	418	34	430	27	33
90°	1	377	2	391	1	1
95°	1	342	1	358	1	1
105°	1	272	1	288	1	1
115°	1	207	1	225	1	1
125°	1	149	1	165	1	1
135°	1	97	1	114	1	1
145°	1	56	1	69	1	1
155°	1	23	1	32	1	0
165°	1	4	1	6	1	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	923.6	923.6	922.6	920.7	921.6	924.5	922.6	917.8	914.9	907.2	909.1
5°	919.7	919.7	918.7	916.8	917.8	921.6	919.7	915.8	912.0	905.2	908.1
7.5°	913.0	913.0	912.0	910.1	912.0	915.8	913.9	910.1	907.2	900.4	903.3
10°	903.3	904.3	903.3	900.4	904.3	908.1	907.2	902.3	899.4	893.6	896.5
12.5°	891.7	892.7	891.7	890.7	892.7	898.5	896.5	892.7	890.7	885.9	888.8
15°	878.2	879.1	877.2	877.2	879.1	884.9	884.9	881.1	879.1	874.3	880.1
17.5°	860.8	861.7	860.8	860.8	862.7	868.5	869.5	867.5	865.6	863.7	869.5
20°	843.4	842.4	842.4	841.5	845.3	854.0	853.1	853.1	851.1	851.1	857.9
22.5°	823.1	823.1	822.1	822.1	827.0	834.7	834.7	836.6	834.7	838.6	844.4
25°	799.9	800.9	799.9	801.9	805.7	814.4	815.4	818.3	819.2	823.1	829.9
27.5°	775.8	776.7	775.8	777.7	784.5	791.2	796.1	799.9	800.9	806.7	815.4
30°	749.7	749.7	750.6	752.6	760.3	770.9	774.8	779.6	779.6	789.3	798.0
32.5°	722.6	722.6	722.6	726.5	735.2	747.8	752.6	758.4	760.3	770.0	779.6
35°	692.7	693.6	693.6	696.5	708.1	720.7	727.5	734.2	738.1	749.7	759.3
37.5°	664.7	666.6	663.7	667.6	684.0	694.6	702.3	709.1	715.9	731.3	739.1
40°	632.8	634.7	633.8	641.5	655.0	668.5	677.2	684.0	693.6	709.1	717.8
42.5°	599.0	600.9	602.8	611.5	626.0	639.5	650.2	658.9	670.5	684.0	698.5
45°	568.1	568.1	571.0	581.6	597.0	611.5	624.1	633.8	647.3	661.8	676.3
47.5°	533.3	534.2	538.1	550.7	567.1	584.5	596.1	608.6	623.1	638.6	655.0
50°	501.4	501.4	507.2	520.7	536.2	555.5	568.1	582.5	598.0	616.4	632.8
52.5°	464.7	466.6	475.3	487.9	508.2	525.6	540.0	555.5	573.9	593.2	611.5
55°	428.0	431.8	438.6	456.0	477.2	493.7	511.1	530.4	547.8	569.0	590.3
57.5°	392.2	395.1	405.8	423.1	445.4	465.7	484.0	502.4	523.6	544.9	567.1
60°	355.5	359.4	371.9	389.3	413.5	434.7	456.0	475.3	497.5	519.8	542.9
62.5°	320.7	323.6	338.1	358.4	382.6	405.8	427.0	450.2	474.3	495.6	518.8
65°	284.0	288.9	305.3	323.6	351.7	374.8	399.0	424.1	449.2	472.4	494.6
67.5°	250.2	253.1	270.5	291.8	319.8	345.9	371.0	398.0	424.1	448.3	470.5
70°	210.6	220.3	237.7	259.9	289.8	316.9	343.9	371.9	400.0	425.1	446.3
72.5°	177.8	185.5	204.8	229.0	257.9	289.8	317.8	347.8	375.8	401.9	424.1
75°	143.0	150.7	172.9	200.0	229.9	263.7	292.7	323.6	352.6	378.7	401.9
77.5°	109.2	118.8	143.0	171.0	203.8	238.6	268.6	299.5	329.4	357.5	380.6
80°	78.3	88.9	115.0	146.8	178.7	213.5	246.4	277.3	307.2	335.2	359.4
82.5°	50.2	61.8	89.8	121.7	155.5	190.3	224.1	255.0	285.0	313.0	338.1
85°	27.1	39.6	68.6	100.5	134.3	169.1	202.9	235.7	264.7	290.8	317.8
87.5°	7.7	23.2	51.2	83.1	117.9	149.7	182.6	215.4	244.4	272.4	296.6
90°	1.0	13.5	38.6	68.6	102.4	133.3	166.2	197.1	226.1	254.1	278.2
92.5°	1.0	8.7	29.9	57.0	87.9	119.8	152.6	182.6	209.6	237.7	261.8
95°	1.0	6.8	24.2	48.3	77.3	107.2	138.2	167.1	195.1	221.2	245.4
97.5°	1.0	4.8	19.3	41.5	67.6	95.6	125.6	154.6	181.6	206.7	229.0
100°	1.0	3.9	15.5	35.7	58.9	86.0	113.0	141.0	167.1	191.3	214.5
102.5°	1.0	2.9	13.5	29.9	52.2	76.3	102.4	128.5	153.6	176.8	200.0
105°	1.0	2.9	11.6	26.1	46.4	68.6	92.7	117.9	141.0	163.3	184.5
107.5°	1.0	1.9	9.7	22.2	40.6	61.8	84.0	108.2	129.5	150.7	171.0
110°	1.0	1.9	7.7	20.3	35.7	55.1	76.3	98.5	118.8	139.1	158.4



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.0	1.9	6.8	17.4	30.9	49.3	68.6	88.9	108.2	128.5	145.9
115°	1.0	1.9	5.8	15.5	29.0	42.5	61.8	80.2	99.5	117.9	134.3
117.5°	1.0	1.9	4.8	12.6	25.1	38.6	54.1	72.5	89.8	107.2	122.7
120°	1.0	1.9	3.9	11.6	22.2	34.8	48.3	64.7	81.2	97.6	114.0
122.5°	1.0	1.0	3.9	9.7	19.3	30.9	44.4	57.0	72.5	87.9	102.4
125°	1.0	1.0	3.9	8.7	16.4	28.0	39.6	51.2	64.7	78.3	90.8
127.5°	1.0	1.0	2.9	6.8	14.5	24.2	34.8	47.3	57.0	69.6	82.1
130°	1.0	1.0	2.9	5.8	12.6	20.3	30.9	41.5	53.1	61.8	72.5
132.5°	1.0	1.0	2.9	4.8	9.7	16.4	26.1	35.7	46.4	56.0	64.7
135°	1.0	1.0	1.9	3.9	7.7	13.5	21.3	29.9	40.6	50.2	58.9
137.5°	1.0	1.0	1.9	3.9	5.8	11.6	16.4	24.2	33.8	42.5	51.2
140°	1.0	1.0	1.9	2.9	4.8	8.7	13.5	19.3	27.1	34.8	44.4
142.5°	1.0	1.0	1.0	2.9	3.9	6.8	10.6	15.5	21.3	28.0	35.7
145°	1.0	1.0	1.0	2.9	3.9	4.8	8.7	12.6	16.4	21.3	28.0
147.5°	1.0	1.0	1.0	1.9	2.9	3.9	6.8	9.7	12.6	16.4	20.3
150°	1.0	1.0	1.0	1.9	2.9	3.9	4.8	6.8	9.7	13.5	16.4
152.5°	1.0	1.0	1.0	1.9	1.9	2.9	3.9	4.8	6.8	9.7	11.6
155°	1.0	1.0	1.0	1.0	1.9	2.9	3.9	3.9	4.8	6.8	8.7
157.5°	1.0	1.0	1.0	1.0	1.9	1.9	2.9	2.9	3.9	3.9	5.8
160°	1.0	1.0	1.0	1.0	1.0	1.9	1.9	2.9	2.9	2.9	2.9
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	1.9
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



TEST NUMBER: P#

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	909.1	910.1	913.0	913.0	911.0	911.0	910.1	909.1	910.1	912.0	912.0
5°	907.2	908.1	911.0	912.0	910.1	909.1	909.1	908.1	909.1	911.0	911.0
7.5°	903.3	904.3	907.2	908.1	906.2	906.2	905.2	904.3	906.2	907.2	907.2
10°	897.5	898.5	902.3	903.3	902.3	901.4	901.4	900.4	901.4	903.3	903.3
12.5°	889.8	891.7	896.5	896.5	896.5	895.6	895.6	894.6	895.6	897.5	896.5
15°	881.1	884.9	888.8	890.7	890.7	890.7	889.8	888.8	890.7	891.7	890.7
17.5°	871.4	876.2	882.0	884.0	884.0	884.9	884.0	883.0	884.9	884.9	884.0
20°	861.7	866.6	872.4	874.3	876.2	877.2	877.2	876.2	877.2	878.2	877.2
22.5°	849.2	855.0	861.7	864.6	866.6	868.5	868.5	868.5	869.5	870.4	868.5
25°	835.7	842.4	850.2	853.1	856.9	857.9	858.9	858.9	859.8	860.8	857.9
27.5°	821.2	828.9	836.6	841.5	844.4	846.3	846.3	847.3	848.2	849.2	846.3
30°	803.8	815.4	822.1	826.0	829.9	832.8	833.7	834.7	835.7	836.6	833.7
32.5°	788.3	798.0	806.7	811.5	816.3	820.2	821.2	821.2	823.1	823.1	820.2
35°	770.0	781.6	790.3	795.1	800.9	803.8	805.7	805.7	807.6	807.6	804.7
37.5°	751.6	763.2	772.9	778.7	785.4	789.3	790.3	790.3	792.2	792.2	788.3
40°	732.3	744.9	755.5	762.2	768.0	772.9	773.8	776.7	776.7	775.8	771.9
42.5°	713.0	724.6	736.2	743.9	751.6	756.4	758.4	759.3	759.3	758.4	755.5
45°	691.7	705.2	715.9	725.5	733.3	738.1	741.0	742.0	742.0	740.0	737.1
47.5°	671.4	685.0	695.6	706.2	713.9	719.7	722.6	723.6	722.6	721.7	718.8
50°	650.2	665.6	676.3	686.9	694.6	699.4	704.3	705.2	704.3	703.3	697.5
52.5°	628.0	644.4	656.0	666.6	675.3	681.1	685.0	685.9	685.9	684.0	680.1
55°	605.7	620.2	634.7	646.3	656.0	661.8	666.6	668.5	666.6	664.7	659.8
57.5°	585.4	599.0	613.5	626.0	635.7	643.4	647.3	649.2	647.3	644.4	639.5
60°	561.3	575.8	592.2	603.8	614.4	622.2	624.1	628.0	626.0	623.1	618.3
62.5°	538.1	555.5	570.0	584.5	593.2	601.9	605.7	607.7	605.7	602.8	598.0
65°	514.0	533.3	547.8	562.3	571.9	580.6	585.4	586.4	584.5	581.6	576.8
67.5°	491.7	510.1	525.6	541.0	549.7	558.4	563.2	565.2	563.2	559.4	554.5
70°	469.5	487.9	506.2	517.8	528.4	538.1	541.0	543.9	542.0	538.1	532.3
72.5°	447.3	466.6	485.0	496.6	508.2	516.9	520.7	523.6	521.7	517.8	511.1
75°	424.1	444.4	462.8	475.3	486.9	495.6	499.5	502.4	500.4	496.6	488.8
77.5°	402.9	423.1	440.5	454.1	465.7	473.4	480.1	481.1	479.2	475.3	467.6
80°	380.6	400.9	419.3	432.8	444.4	452.1	457.0	459.9	457.9	454.1	446.3
82.5°	361.3	379.7	398.0	411.6	423.1	432.8	436.7	439.6	438.6	432.8	427.0
85°	340.1	361.3	375.8	390.3	401.9	411.6	414.5	418.3	417.3	412.5	404.8
87.5°	318.8	340.1	357.5	371.9	382.6	390.3	395.1	397.1	396.1	391.3	382.6
90°	301.4	320.7	338.1	353.6	362.3	371.0	375.8	376.8	376.8	371.0	364.2
92.5°	285.0	303.4	320.7	335.2	345.9	353.6	357.5	359.4	358.4	353.6	345.9
95°	266.6	286.9	303.4	317.8	328.5	336.2	340.1	342.0	341.0	336.2	328.5
97.5°	251.2	269.5	286.0	299.5	310.1	317.8	321.7	323.6	323.6	318.8	311.1
100°	235.7	254.1	269.5	283.1	292.7	300.5	304.3	305.3	304.3	300.5	292.7
102.5°	220.3	237.7	253.1	265.7	276.3	283.1	286.9	287.9	287.9	283.1	275.3
105°	204.8	222.2	236.7	250.2	258.9	265.7	268.6	271.5	270.5	266.6	258.9
107.5°	190.3	207.7	221.2	233.8	242.5	249.3	252.1	255.0	254.1	250.2	242.5
110°	176.8	193.2	205.8	218.3	226.1	232.8	237.7	238.6	236.7	232.8	226.1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	164.2	178.7	191.3	202.9	211.6	216.4	220.3	222.2	220.3	216.4	211.6
115°	150.7	165.2	177.8	188.4	196.1	201.9	204.8	206.7	204.8	200.9	196.1
117.5°	138.2	151.7	164.2	174.9	181.6	186.5	189.4	191.3	189.4	186.5	181.6
120°	127.5	139.1	150.7	160.4	168.1	172.0	174.9	176.8	175.8	172.0	167.1
122.5°	115.0	127.5	138.2	147.8	154.6	158.4	160.4	162.3	161.3	158.4	153.6
125°	104.3	115.0	125.6	134.3	141.0	144.9	146.8	148.8	147.8	144.9	139.1
127.5°	92.7	104.3	113.0	121.7	126.6	132.4	133.3	135.3	134.3	131.4	126.6
130°	84.0	92.7	101.4	109.2	115.0	118.8	120.8	121.7	119.8	117.9	113.0
132.5°	73.4	83.1	90.8	97.6	101.4	105.3	107.2	108.2	108.2	105.3	101.4
135°	65.7	72.5	79.2	86.0	89.8	93.7	95.6	96.6	95.6	93.7	89.8
137.5°	58.9	64.7	69.6	75.4	80.2	82.1	84.0	84.0	83.1	82.1	79.2
140°	51.2	58.0	62.8	66.7	70.5	71.5	73.4	73.4	72.5	71.5	69.6
142.5°	43.5	49.3	54.1	58.9	61.8	63.8	64.7	65.7	64.7	63.8	60.9
145°	34.8	41.5	46.4	49.3	53.1	54.1	55.1	56.0	55.1	54.1	51.2
147.5°	27.1	32.8	37.7	41.5	44.4	45.4	46.4	47.3	46.4	44.4	43.5
150°	19.3	24.2	29.9	33.8	35.7	37.7	37.7	37.7	38.6	36.7	34.8
152.5°	15.5	17.4	21.3	25.1	28.0	29.0	29.9	29.9	29.0	29.0	27.1
155°	10.6	12.6	15.5	18.4	21.3	22.2	23.2	23.2	22.2	22.2	21.3
157.5°	6.8	8.7	10.6	12.6	15.5	16.4	17.4	17.4	17.4	16.4	15.5
160°	3.9	4.8	5.8	7.7	9.7	10.6	11.6	11.6	11.6	11.6	10.6
162.5°	2.9	2.9	2.9	3.9	4.8	5.8	6.8	6.8	6.8	6.8	5.8
165°	1.9	1.9	1.9	1.9	1.9	2.9	3.9	3.9	3.9	3.9	3.9
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



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	911.0	911.0	912.0	910.1	904.3	905.2	905.2	909.1	911.0	912.0	916.8
5°	909.1	909.1	911.0	908.1	903.3	903.3	903.3	907.2	908.1	910.1	913.9
7.5°	906.2	906.2	907.2	904.3	898.5	898.5	897.5	901.4	903.3	904.3	908.1
10°	901.4	901.4	902.3	899.4	892.7	892.7	891.7	894.6	895.6	897.5	900.4
12.5°	894.6	894.6	894.6	891.7	884.9	884.0	883.0	885.9	885.9	886.9	889.8
15°	888.8	886.9	886.9	884.0	877.2	875.3	873.3	874.3	876.2	875.3	877.2
17.5°	882.0	880.1	878.2	875.3	866.6	863.7	861.7	862.7	861.7	860.8	862.7
20°	874.3	871.4	870.4	865.6	856.9	852.1	848.2	846.3	847.3	844.4	845.3
22.5°	865.6	861.7	859.8	854.0	845.3	839.5	834.7	830.8	829.9	826.0	827.0
25°	855.0	850.2	847.3	842.4	832.8	826.0	820.2	814.4	811.5	806.7	805.7
27.5°	842.4	837.6	833.7	828.9	819.2	810.5	803.8	796.1	792.2	786.4	783.5
30°	829.9	824.1	818.3	814.4	803.8	794.1	783.5	776.7	770.9	764.2	759.3
32.5°	814.4	808.6	802.8	797.0	787.4	775.8	767.1	756.4	749.7	742.0	736.2
35°	799.0	791.2	785.4	777.7	769.0	755.5	744.9	734.2	725.5	716.8	710.1
37.5°	781.6	775.8	767.1	760.3	749.7	736.2	724.6	711.0	703.3	691.7	683.0
40°	765.1	758.4	749.7	741.0	730.4	714.9	702.3	686.9	678.2	664.7	656.0
42.5°	748.7	739.1	730.4	720.7	709.1	694.6	679.2	663.7	652.1	639.5	627.0
45°	730.4	719.7	709.1	698.5	686.9	672.4	656.0	639.5	625.1	613.5	598.0
47.5°	711.0	700.4	687.9	676.3	663.7	649.2	631.8	614.4	599.0	585.4	569.0
50°	691.7	681.1	667.6	655.0	640.5	626.0	607.7	587.4	571.0	553.6	539.1
52.5°	671.4	660.8	648.2	631.8	616.4	601.9	582.5	561.3	542.9	528.4	510.1
55°	651.1	640.5	626.0	609.6	594.1	575.8	557.4	536.2	515.9	498.5	480.1
57.5°	629.9	620.2	603.8	590.3	571.0	551.6	532.3	512.0	489.8	469.5	448.3
60°	608.6	598.0	582.5	566.1	546.8	527.5	507.2	485.0	461.8	439.6	420.2
62.5°	589.3	575.8	561.3	543.9	523.6	505.3	482.1	457.9	434.7	411.6	388.4
65°	567.1	552.6	539.1	521.7	500.4	479.2	456.0	431.8	406.7	381.6	358.4
67.5°	544.9	530.4	515.9	498.5	476.3	454.1	429.9	405.8	377.7	353.6	326.5
70°	522.7	511.1	492.7	474.3	454.1	429.9	405.8	379.7	350.7	324.6	296.6
72.5°	500.4	488.8	470.5	451.2	431.8	406.7	380.6	354.6	327.5	297.6	267.6
75°	479.2	464.7	448.3	429.9	409.6	383.5	357.5	330.4	298.5	270.5	239.6
77.5°	458.9	445.4	428.9	408.7	386.4	361.3	334.3	306.2	274.4	244.4	210.6
80°	436.7	423.1	406.7	386.4	364.2	340.1	311.1	282.1	251.2	218.3	183.6
82.5°	415.4	402.9	384.5	366.1	342.0	317.8	288.9	259.9	227.0	195.1	161.3
85°	393.2	380.6	363.2	343.9	320.7	294.7	267.6	238.6	205.8	172.9	139.1
87.5°	373.9	359.4	342.0	322.7	299.5	274.4	248.3	217.4	185.5	153.6	118.8
90°	353.6	340.1	322.7	303.4	280.2	255.0	228.0	199.0	168.1	135.3	102.4
92.5°	336.2	321.7	305.3	286.0	262.8	238.6	211.6	182.6	152.6	120.8	88.9
95°	318.8	304.3	288.9	269.5	246.4	222.2	195.1	167.1	138.2	107.2	77.3
97.5°	299.5	286.9	271.5	253.1	229.9	206.7	180.7	153.6	125.6	95.6	67.6
100°	284.0	269.5	255.0	235.7	214.5	192.3	166.2	140.1	113.0	85.0	58.9
102.5°	266.6	253.1	238.6	220.3	199.0	176.8	152.6	127.5	102.4	76.3	51.2
105°	250.2	237.7	222.2	204.8	184.5	163.3	140.1	116.9	92.7	67.6	45.4
107.5°	233.8	221.2	206.7	190.3	171.0	149.7	128.5	105.3	83.1	60.9	40.6
110°	217.4	205.8	192.3	175.8	157.5	138.2	117.9	96.6	74.4	54.1	35.7



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	202.9	191.3	177.8	162.3	144.9	126.6	107.2	86.9	66.7	48.3	30.9
115°	188.4	177.8	164.2	150.7	133.3	115.9	97.6	78.3	59.9	43.5	27.1
117.5°	173.9	163.3	150.7	137.2	121.7	105.3	87.9	69.6	54.1	38.6	24.2
120°	159.4	149.7	138.2	125.6	112.1	95.6	78.3	62.8	48.3	33.8	21.3
122.5°	145.9	137.2	126.6	115.0	100.5	85.0	70.5	57.0	43.5	29.9	17.4
125°	133.3	124.6	115.0	103.4	89.8	76.3	63.8	51.2	37.7	26.1	14.5
127.5°	120.8	112.1	102.4	91.8	81.2	68.6	57.0	45.4	33.8	23.2	12.6
130°	108.2	100.5	91.8	83.1	72.5	60.9	51.2	39.6	29.0	18.4	10.6
132.5°	95.6	89.8	82.1	73.4	63.8	55.1	44.4	34.8	25.1	16.4	9.7
135°	85.0	79.2	72.5	64.7	57.0	48.3	38.6	29.9	21.3	13.5	7.7
137.5°	75.4	70.5	63.8	57.0	50.2	41.5	33.8	25.1	17.4	11.6	5.8
140°	66.7	61.8	56.0	49.3	43.5	35.7	28.0	20.3	15.5	9.7	4.8
142.5°	58.0	53.1	48.3	42.5	36.7	29.9	23.2	17.4	12.6	7.7	4.8
145°	49.3	45.4	40.6	35.7	29.9	24.2	19.3	14.5	9.7	5.8	3.9
147.5°	40.6	37.7	32.8	29.0	24.2	19.3	15.5	11.6	7.7	4.8	2.9
150°	32.8	29.9	26.1	22.2	19.3	15.5	12.6	8.7	5.8	4.8	2.9
152.5°	25.1	23.2	20.3	18.4	15.5	11.6	8.7	6.8	4.8	3.9	1.9
155°	20.3	18.4	16.4	13.5	11.6	8.7	6.8	4.8	3.9	2.9	1.9
157.5°	14.5	13.5	11.6	9.7	7.7	5.8	4.8	4.8	2.9	1.9	1.0
160°	9.7	8.7	7.7	5.8	4.8	4.8	3.9	2.9	1.9	1.9	1.0
162.5°	5.8	4.8	4.8	4.8	3.9	3.9	2.9	1.9	1.9	1.0	1.0
165°	3.9	3.9	3.9	2.9	2.9	2.9	1.9	1.0	1.0	1.0	1.0
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



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	916.8	913.9	917.8	924.5	925.5	924.5	922.6	925.5	929.4	928.4	921.6
5°	914.9	911.0	914.9	921.6	921.6	920.7	919.7	922.6	926.5	925.5	919.7
7.5°	909.1	905.2	909.1	914.9	915.8	913.9	913.9	916.8	920.7	919.7	914.9
10°	901.4	897.5	899.4	906.2	908.1	906.2	906.2	909.1	913.9	913.0	907.2
12.5°	889.8	886.9	888.8	894.6	896.5	895.6	894.6	898.5	903.3	903.3	897.5
15°	877.2	873.3	875.3	882.0	883.0	881.1	882.0	884.9	890.7	890.7	885.9
17.5°	862.7	857.9	860.8	865.6	866.6	866.6	866.6	870.4	877.2	876.2	872.4
20°	846.3	839.5	841.5	846.3	848.2	848.2	848.2	855.0	859.8	859.8	856.0
22.5°	827.0	822.1	822.1	827.0	829.9	828.9	828.9	834.7	841.5	840.5	840.5
25°	804.7	800.9	799.0	804.7	805.7	806.7	808.6	814.4	822.1	822.1	823.1
27.5°	781.6	777.7	776.7	781.6	782.5	783.5	785.4	792.2	799.9	800.9	802.8
30°	759.3	753.5	751.6	755.5	757.4	758.4	758.4	769.0	775.8	778.7	782.5
32.5°	733.3	727.5	722.6	729.4	730.4	732.3	733.3	743.9	751.6	756.4	762.2
35°	707.2	697.5	695.6	700.4	702.3	703.3	705.2	716.8	727.5	731.3	739.1
37.5°	678.2	671.4	665.6	670.5	672.4	673.4	679.2	689.8	700.4	706.2	713.9
40°	651.1	642.4	637.6	640.5	642.4	643.4	650.2	661.8	674.3	681.1	690.8
42.5°	621.2	609.6	605.7	608.6	609.6	612.5	618.3	633.8	646.3	656.0	663.7
45°	591.2	582.5	573.9	576.8	577.7	579.7	588.3	604.8	618.3	629.9	638.6
47.5°	560.3	549.7	541.0	542.9	546.8	547.8	557.4	576.8	589.3	601.9	613.5
50°	529.4	514.9	508.2	508.2	510.1	514.9	527.5	546.8	560.3	574.8	587.4
52.5°	497.5	484.0	476.3	477.2	479.2	485.0	496.6	515.9	531.3	546.8	562.3
55°	465.7	451.2	443.4	441.5	443.4	451.2	464.7	485.0	500.4	518.8	535.2
57.5°	433.8	416.4	409.6	406.7	408.7	418.3	431.8	453.1	472.4	489.8	509.1
60°	399.0	385.5	373.9	367.1	371.9	384.5	399.0	421.2	441.5	460.8	482.1
62.5°	369.0	351.7	339.1	332.3	337.2	347.8	368.1	389.3	411.6	433.8	455.0
65°	335.2	317.8	303.4	296.6	301.4	314.0	334.3	357.5	381.6	403.8	428.9
67.5°	302.4	284.0	266.6	259.9	265.7	279.2	301.4	327.5	353.6	376.8	403.8
70°	270.5	250.2	231.9	227.0	230.9	249.3	270.5	296.6	323.6	350.7	378.7
72.5°	241.5	216.4	197.1	191.3	196.1	216.4	240.6	267.6	296.6	325.6	355.5
75°	207.7	184.5	163.3	156.5	162.3	180.7	210.6	239.6	270.5	301.4	329.4
77.5°	180.7	153.6	131.4	120.8	130.4	153.6	182.6	213.5	245.4	277.3	309.1
80°	152.6	124.6	100.5	88.9	99.5	124.6	153.6	187.4	223.2	255.0	284.0
82.5°	127.5	97.6	72.5	59.9	71.5	99.5	131.4	165.2	200.0	231.9	265.7
85°	104.3	73.4	47.3	33.8	50.2	75.4	109.2	143.9	179.7	212.5	245.4
87.5°	85.0	55.1	29.0	14.5	30.9	58.9	90.8	125.6	161.3	194.2	225.1
90°	69.6	39.6	15.5	1.9	18.4	44.4	75.4	109.2	143.0	176.8	207.7
92.5°	57.0	29.9	8.7	1.0	11.6	35.7	64.7	96.6	129.5	162.3	192.3
95°	47.3	23.2	5.8	1.0	8.7	28.0	55.1	86.0	116.9	148.8	178.7
97.5°	40.6	19.3	4.8	1.0	6.8	24.2	47.3	76.3	106.3	136.2	165.2
100°	34.8	15.5	3.9	1.0	5.8	20.3	41.5	67.6	95.6	124.6	152.6
102.5°	29.9	12.6	2.9	1.0	4.8	17.4	36.7	60.9	86.0	114.0	141.0
105°	26.1	10.6	2.9	1.0	3.9	15.5	32.8	54.1	79.2	104.3	130.4
107.5°	22.2	8.7	1.9	1.0	2.9	12.6	29.0	49.3	71.5	95.6	119.8
110°	19.3	7.7	1.9	1.0	2.9	11.6	25.1	44.4	64.7	86.9	110.1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	16.4	5.8	1.9	1.0	1.9	9.7	22.2	39.6	58.9	79.2	101.4
115°	14.5	4.8	1.0	1.0	1.9	8.7	20.3	35.7	53.1	72.5	92.7
117.5°	11.6	3.9	1.0	1.0	1.0	6.8	17.4	31.9	48.3	66.7	85.0
120°	9.7	3.9	1.0	1.0	1.0	5.8	15.5	28.0	43.5	59.9	77.3
122.5°	8.7	2.9	1.0	1.0	1.0	4.8	13.5	25.1	38.6	54.1	70.5
125°	7.7	2.9	1.0	1.0	1.0	3.9	11.6	22.2	34.8	48.3	63.8
127.5°	5.8	2.9	1.0	1.0	1.0	2.9	10.6	19.3	30.9	43.5	57.0
130°	4.8	1.9	1.0	1.0	1.0	2.9	8.7	17.4	27.1	38.6	51.2
132.5°	3.9	1.9	1.0	1.0	1.0	1.9	6.8	13.5	23.2	33.8	45.4
135°	3.9	1.9	1.0	1.0	1.0	1.9	4.8	11.6	19.3	29.0	38.6
137.5°	3.9	1.0	1.0	1.0	1.0	1.9	3.9	8.7	15.5	23.2	31.9
140°	2.9	1.0	1.0	1.0	1.0	1.0	2.9	6.8	12.6	19.3	27.1
142.5°	2.9	1.0	1.0	1.0	1.0	1.0	2.9	4.8	9.7	15.5	21.3
145°	1.9	1.0	1.0	1.0	1.0	1.0	1.9	3.9	7.7	11.6	17.4
147.5°	1.9	1.0	1.0	1.0	1.0	1.0	1.9	2.9	5.8	9.7	13.5
150°	1.9	1.0	1.0	1.0	1.0	1.0	1.9	2.9	3.9	6.8	10.6
152.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	2.9	4.8	6.8
155°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	2.9	3.9	4.8
157.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	2.9	3.9
160°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	2.9
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	918.7	912.0	913.9	913.0	914.9	917.8	917.8	916.8	916.8	914.9	913.0
5°	916.8	910.1	913.0	912.0	913.9	916.8	916.8	915.8	915.8	913.0	912.0
7.5°	911.0	906.2	908.1	908.1	910.1	913.0	913.0	912.0	912.0	909.1	908.1
10°	905.2	899.4	902.3	902.3	904.3	908.1	908.1	907.2	907.2	904.3	903.3
12.5°	895.6	889.8	894.6	895.6	897.5	901.4	900.4	900.4	900.4	897.5	896.5
15°	884.0	880.1	884.9	885.9	888.8	893.6	893.6	893.6	893.6	890.7	889.8
17.5°	871.4	868.5	873.3	875.3	879.1	884.0	884.0	884.9	885.9	884.0	883.0
20°	856.9	855.0	859.8	863.7	869.5	874.3	876.2	877.2	879.1	877.2	876.2
22.5°	840.5	840.5	847.3	851.1	857.9	862.7	865.6	868.5	870.4	868.5	867.5
25°	822.1	825.0	831.8	838.6	846.3	851.1	854.0	857.9	859.8	858.9	857.9
27.5°	804.7	808.6	817.3	824.1	830.8	838.6	841.5	846.3	848.2	848.2	847.3
30°	784.5	790.3	799.9	807.6	816.3	824.1	827.9	832.8	835.7	833.7	834.7
32.5°	765.1	774.8	782.5	791.2	800.9	808.6	813.4	819.2	822.1	821.2	822.1
35°	743.9	753.5	764.2	772.9	784.5	792.2	799.0	803.8	807.6	806.7	806.7
37.5°	720.7	733.3	743.9	755.5	766.1	774.8	781.6	787.4	791.2	791.2	791.2
40°	698.5	712.0	722.6	736.2	749.7	757.4	765.1	770.9	774.8	775.8	776.7
42.5°	674.3	688.8	701.4	715.9	729.4	739.1	747.8	754.5	758.4	760.3	759.3
45°	652.1	665.6	680.1	696.5	709.1	718.8	729.4	737.1	741.0	742.0	742.9
47.5°	627.0	642.4	658.9	675.3	687.9	700.4	710.1	717.8	721.7	724.6	724.6
50°	602.8	619.3	637.6	655.0	668.5	681.1	690.8	699.4	704.3	706.2	707.2
52.5°	580.6	596.1	615.4	632.8	646.3	658.9	671.4	681.1	685.9	687.9	687.9
55°	553.6	572.9	594.1	610.6	625.1	639.5	652.1	661.8	666.6	669.5	671.4
57.5°	528.4	548.7	571.0	588.3	605.7	619.3	630.9	643.4	647.3	651.1	652.1
60°	504.3	524.6	545.8	565.2	582.5	597.0	610.6	621.2	628.0	629.9	631.8
62.5°	479.2	500.4	522.7	542.0	560.3	577.7	590.3	599.9	607.7	610.6	612.5
65°	455.0	477.2	499.5	519.8	539.1	556.5	569.0	578.7	586.4	591.2	592.2
67.5°	428.9	453.1	476.3	497.5	516.9	535.2	547.8	557.4	565.2	571.0	571.9
70°	404.8	429.9	453.1	476.3	495.6	514.0	527.5	537.1	545.8	549.7	551.6
72.5°	381.6	407.7	431.8	455.0	474.3	492.7	507.2	516.9	525.6	530.4	531.3
75°	359.4	385.5	411.6	433.8	454.1	472.4	486.9	497.5	505.3	510.1	512.0
77.5°	337.2	364.2	390.3	412.5	433.8	452.1	464.7	477.2	485.0	490.8	490.8
80°	314.9	343.0	370.0	392.2	413.5	429.9	444.4	457.0	464.7	470.5	470.5
82.5°	295.6	322.7	348.8	371.0	392.2	410.6	425.1	436.7	445.4	449.2	450.2
85°	273.4	303.4	327.5	351.7	371.9	389.3	403.8	416.4	424.1	428.0	429.9
87.5°	255.0	284.0	310.1	331.4	351.7	369.0	385.5	396.1	403.8	408.7	410.6
90°	237.7	265.7	291.8	313.0	334.3	350.7	366.1	376.8	385.5	389.3	391.3
92.5°	222.2	250.2	275.3	296.6	316.9	335.2	349.7	360.3	368.1	371.9	374.8
95°	207.7	234.8	258.9	282.1	301.4	317.8	333.3	343.9	352.6	355.5	358.4
97.5°	193.2	219.3	243.5	265.7	286.0	301.4	315.9	326.5	333.3	338.1	341.0
100°	180.7	205.8	229.0	250.2	269.5	284.0	299.5	309.1	315.9	319.8	323.6
102.5°	167.1	192.3	214.5	234.8	255.0	268.6	283.1	292.7	298.5	305.3	305.3
105°	155.5	178.7	200.9	220.3	237.7	254.1	266.6	276.3	283.1	287.9	287.9
107.5°	143.0	166.2	187.4	207.7	224.1	239.6	251.2	259.9	267.6	270.5	273.4
110°	133.3	153.6	174.9	194.2	209.6	224.1	235.7	245.4	252.1	255.0	257.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	121.7	143.0	162.3	180.7	196.1	209.6	221.2	229.0	235.7	239.6	240.6
115°	112.1	132.4	149.7	167.1	183.6	195.1	205.8	213.5	220.3	223.2	225.1
117.5°	103.4	121.7	139.1	153.6	169.1	181.6	192.3	199.0	204.8	208.7	210.6
120°	94.7	112.1	127.5	142.0	156.5	168.1	177.8	184.5	191.3	194.2	194.2
122.5°	86.0	102.4	116.9	130.4	143.9	154.6	165.2	171.0	176.8	179.7	179.7
125°	78.3	93.7	107.2	119.8	132.4	142.0	150.7	157.5	163.3	165.2	165.2
127.5°	70.5	85.0	97.6	109.2	119.8	129.5	138.2	144.9	149.7	151.7	151.7
130°	63.8	76.3	87.9	99.5	110.1	117.9	126.6	132.4	135.3	138.2	139.1
132.5°	57.0	68.6	79.2	88.9	99.5	107.2	114.0	119.8	122.7	125.6	126.6
135°	50.2	60.9	70.5	80.2	88.9	96.6	102.4	107.2	111.1	113.0	114.0
137.5°	42.5	54.1	62.8	70.5	80.2	86.0	92.7	95.6	99.5	101.4	101.4
140°	35.7	44.4	54.1	61.8	69.6	75.4	81.2	86.0	88.9	89.8	89.8
142.5°	29.0	36.7	44.4	54.1	60.9	65.7	71.5	75.4	77.3	78.3	79.2
145°	23.2	29.0	35.7	44.4	52.2	58.0	60.9	64.7	66.7	67.6	68.6
147.5°	17.4	23.2	29.0	34.8	42.5	48.3	51.2	55.1	57.0	58.0	58.0
150°	13.5	17.4	21.3	27.1	32.8	39.6	43.5	46.4	47.3	48.3	48.3
152.5°	9.7	13.5	16.4	20.3	24.2	29.9	35.7	37.7	38.6	39.6	39.6
155°	6.8	9.7	11.6	14.5	17.4	22.2	27.1	29.9	30.9	31.9	31.9
157.5°	4.8	6.8	7.7	10.6	12.6	14.5	18.4	23.2	24.2	24.2	24.2
160°	2.9	3.9	4.8	6.8	7.7	9.7	11.6	14.5	17.4	17.4	17.4
162.5°	1.9	2.9	2.9	3.9	3.9	5.8	6.8	7.7	10.6	11.6	11.6
165°	1.0	1.9	1.9	1.9	1.9	1.9	2.9	2.9	4.8	5.8	5.8
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



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	913.9	915.8	914.9	914.9	914.9	916.8	914.9	906.2	908.1	910.1	912.0
5°	913.0	913.9	913.9	913.0	913.0	914.9	913.0	904.3	906.2	908.1	909.1
7.5°	909.1	910.1	910.1	910.1	909.1	911.0	908.1	900.4	900.4	902.3	903.3
10°	904.3	906.2	905.2	904.3	904.3	904.3	902.3	893.6	893.6	894.6	895.6
12.5°	898.5	898.5	898.5	897.5	896.5	896.5	894.6	885.9	884.9	886.9	885.9
15°	890.7	892.7	890.7	889.8	887.8	887.8	884.9	876.2	874.3	875.3	874.3
17.5°	884.0	884.9	883.0	881.1	879.1	878.2	875.3	865.6	862.7	863.7	861.7
20°	877.2	877.2	875.3	873.3	870.4	867.5	863.7	854.0	849.2	849.2	845.3
22.5°	868.5	868.5	866.6	863.7	860.8	856.9	853.1	843.4	835.7	833.7	830.8
25°	858.9	857.9	856.9	854.0	848.2	844.4	840.5	829.9	821.2	817.3	812.5
27.5°	847.3	847.3	844.4	841.5	835.7	830.8	826.0	816.3	804.7	799.9	793.2
30°	834.7	834.7	831.8	827.9	822.1	816.3	810.5	799.0	787.4	780.6	772.9
32.5°	822.1	821.2	818.3	814.4	808.6	799.9	795.1	783.5	770.0	762.2	751.6
35°	806.7	805.7	802.8	798.0	790.3	783.5	775.8	765.1	749.7	740.0	728.4
37.5°	791.2	790.3	788.3	781.6	773.8	766.1	756.4	745.8	731.3	718.8	707.2
40°	775.8	774.8	770.9	766.1	756.4	746.8	737.1	726.5	711.0	696.5	684.0
42.5°	759.3	758.4	753.5	747.8	737.1	727.5	715.9	704.3	688.8	671.4	658.9
45°	742.9	741.0	736.2	729.4	717.8	707.2	695.6	682.1	666.6	650.2	633.8
47.5°	725.5	722.6	717.8	708.1	698.5	686.9	673.4	658.9	643.4	625.1	607.7
50°	706.2	704.3	698.5	689.8	678.2	666.6	651.1	636.7	618.3	600.9	579.7
52.5°	687.9	684.0	679.2	669.5	657.9	645.3	628.9	611.5	593.2	576.8	554.5
55°	668.5	666.6	659.8	652.1	637.6	623.1	607.7	589.3	569.0	549.7	528.4
57.5°	650.2	646.3	640.5	629.9	617.3	602.8	586.4	567.1	544.9	524.6	501.4
60°	631.8	626.0	619.3	609.6	596.1	580.6	563.2	542.9	520.7	498.5	474.3
62.5°	611.5	606.7	599.0	589.3	575.8	559.4	541.0	519.8	498.5	475.3	449.2
65°	591.2	586.4	578.7	569.0	555.5	537.1	517.8	496.6	472.4	450.2	422.2
67.5°	571.0	566.1	557.4	546.8	533.3	515.9	495.6	473.4	449.2	425.1	396.1
70°	550.7	544.9	537.1	525.6	512.0	493.7	473.4	450.2	426.0	400.0	371.0
72.5°	530.4	525.6	515.9	505.3	490.8	472.4	452.1	428.9	403.8	376.8	347.8
75°	510.1	504.3	497.5	485.0	469.5	452.1	430.9	407.7	380.6	354.6	324.6
77.5°	489.8	485.0	476.3	463.7	449.2	430.9	409.6	386.4	359.4	332.3	300.5
80°	469.5	463.7	457.0	445.4	428.9	410.6	388.4	365.2	338.1	310.1	278.2
82.5°	449.2	443.4	435.7	424.1	408.7	390.3	369.0	343.9	316.9	287.9	257.9
85°	428.9	424.1	415.4	403.8	387.4	369.0	347.8	325.6	296.6	267.6	237.7
87.5°	408.7	403.8	395.1	383.5	368.1	349.7	328.5	305.3	277.3	250.2	217.4
90°	389.3	385.5	376.8	365.2	349.7	331.4	312.0	286.9	259.9	232.8	201.9
92.5°	371.9	368.1	360.3	348.8	335.2	314.9	295.6	271.5	244.4	216.4	186.5
95°	356.5	351.7	343.9	333.3	316.9	299.5	280.2	256.0	229.9	201.9	172.9
97.5°	339.1	334.3	326.5	314.9	301.4	283.1	263.7	240.6	214.5	188.4	159.4
100°	321.7	316.9	308.2	298.5	285.0	266.6	248.3	225.1	200.9	175.8	147.8
102.5°	304.3	299.5	291.8	282.1	268.6	252.1	233.8	211.6	187.4	162.3	136.2
105°	287.9	283.1	275.3	265.7	253.1	236.7	217.4	198.0	174.9	150.7	125.6
107.5°	271.5	266.6	259.9	250.2	237.7	222.2	203.8	183.6	162.3	139.1	115.0
110°	255.0	251.2	243.5	234.8	222.2	206.7	190.3	171.0	149.7	128.5	105.3



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	239.6	235.7	228.0	218.3	207.7	193.2	176.8	158.4	138.2	117.9	95.6
115°	224.1	219.3	212.5	203.8	193.2	179.7	164.2	147.8	127.5	108.2	87.9
117.5°	208.7	204.8	198.0	189.4	179.7	166.2	151.7	136.2	116.9	98.5	80.2
120°	193.2	190.3	183.6	175.8	166.2	153.6	140.1	124.6	107.2	89.8	72.5
122.5°	178.7	175.8	169.1	162.3	152.6	141.0	128.5	114.0	98.5	82.1	66.7
125°	165.2	161.3	155.5	148.8	140.1	129.5	116.9	103.4	88.9	74.4	59.9
127.5°	150.7	147.8	143.9	136.2	127.5	117.9	106.3	94.7	81.2	67.6	54.1
130°	139.1	135.3	130.4	124.6	116.9	107.2	96.6	85.0	73.4	60.9	47.3
132.5°	125.6	121.7	117.9	112.1	105.3	96.6	86.9	76.3	65.7	54.1	42.5
135°	113.0	110.1	106.3	100.5	93.7	86.9	77.3	67.6	58.0	47.3	37.7
137.5°	101.4	98.5	94.7	90.8	84.0	77.3	68.6	59.9	51.2	41.5	32.8
140°	89.8	87.9	84.0	80.2	74.4	67.6	59.9	52.2	44.4	35.7	28.0
142.5°	78.3	76.3	73.4	69.6	64.7	58.9	52.2	45.4	37.7	30.9	24.2
145°	67.6	66.7	63.8	59.9	56.0	50.2	44.4	38.6	31.9	26.1	19.3
147.5°	57.0	56.0	54.1	51.2	47.3	42.5	37.7	31.9	27.1	21.3	15.5
150°	47.3	46.4	45.4	41.5	39.6	34.8	30.9	26.1	22.2	16.4	12.6
152.5°	38.6	38.6	36.7	33.8	31.9	28.0	25.1	21.3	17.4	13.5	9.7
155°	30.9	29.9	29.0	27.1	25.1	22.2	19.3	16.4	13.5	9.7	6.8
157.5°	24.2	23.2	22.2	20.3	18.4	17.4	14.5	11.6	8.7	6.8	4.8
160°	17.4	16.4	15.5	14.5	13.5	11.6	9.7	7.7	5.8	3.9	2.9
162.5°	11.6	10.6	10.6	9.7	8.7	6.8	5.8	4.8	3.9	2.9	1.9
165°	5.8	5.8	4.8	4.8	3.9	2.9	2.9	2.9	1.9	1.9	1.0
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



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	915.8	915.8	915.8	915.8	915.8	915.8	915.8
2.5°	911.0	911.0	914.9	913.9	911.0	916.8	923.6
5°	908.1	908.1	911.0	911.0	908.1	913.9	919.7
7.5°	903.3	902.3	905.2	905.2	901.4	906.2	913.0
10°	894.6	893.6	896.5	896.5	892.7	897.5	903.3
12.5°	884.9	883.0	885.9	884.9	881.1	885.9	891.7
15°	872.4	871.4	873.3	871.4	867.5	872.4	878.2
17.5°	859.8	856.9	857.9	857.9	851.1	856.0	860.8
20°	843.4	839.5	840.5	839.5	834.7	837.6	843.4
22.5°	827.0	821.2	821.2	820.2	814.4	818.3	823.1
25°	806.7	799.9	799.9	799.0	792.2	795.1	799.9
27.5°	786.4	779.6	776.7	775.8	769.0	769.0	775.8
30°	765.1	755.5	753.5	750.6	743.9	743.9	749.7
32.5°	744.9	731.3	727.5	723.6	716.8	715.9	722.6
35°	717.8	707.2	700.4	696.5	688.8	686.9	692.7
37.5°	695.6	682.1	672.4	667.6	659.8	656.9	664.7
40°	671.4	656.9	644.4	641.5	629.9	626.0	632.8
42.5°	644.4	628.9	616.4	610.6	601.9	598.0	599.0
45°	617.3	600.9	587.4	579.7	571.0	564.2	568.1
47.5°	589.3	574.8	558.4	546.8	536.2	531.3	533.3
50°	561.3	543.9	528.4	515.9	503.3	497.5	501.4
52.5°	533.3	514.9	497.5	484.0	469.5	463.7	464.7
55°	506.2	486.9	466.6	452.1	438.6	429.9	428.0
57.5°	479.2	457.9	436.7	420.2	402.9	395.1	392.2
60°	450.2	428.0	405.8	386.4	368.1	359.4	355.5
62.5°	423.1	399.0	373.9	353.6	335.2	323.6	320.7
65°	397.1	369.0	343.9	320.7	300.5	287.9	284.0
67.5°	369.0	340.1	313.0	287.9	268.6	252.1	250.2
70°	343.0	312.0	282.1	256.0	234.8	218.3	210.6
72.5°	316.9	285.0	254.1	226.1	199.0	183.6	177.8
75°	291.8	258.9	226.1	197.1	167.1	148.8	143.0
77.5°	268.6	234.8	200.0	168.1	140.1	116.9	109.2
80°	246.4	211.6	174.9	142.0	112.1	86.9	78.3
82.5°	223.2	190.3	152.6	117.9	86.9	60.9	50.2
85°	202.9	170.0	132.4	97.6	66.7	38.6	27.1
87.5°	186.5	150.7	116.9	82.1	50.2	22.2	7.7
90°	170.0	135.3	101.4	67.6	37.7	12.6	1.0
92.5°	155.5	122.7	88.9	58.0	29.0	8.7	1.0
95°	142.0	110.1	78.3	48.3	23.2	5.8	1.0
97.5°	129.5	99.5	69.6	41.5	19.3	4.8	1.0
100°	118.8	89.8	61.8	36.7	16.4	3.9	1.0
102.5°	108.2	81.2	55.1	31.9	14.5	2.9	1.0
105°	99.5	73.4	49.3	29.0	12.6	2.9	1.0
107.5°	90.8	66.7	44.4	25.1	10.6	1.9	1.0
110°	82.1	60.9	39.6	22.2	9.7	1.9	1.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	75.4	55.1	35.7	20.3	7.7	1.9	1.0
115°	68.6	49.3	31.9	17.4	6.8	1.0	1.0
117.5°	61.8	44.4	28.0	15.5	5.8	1.0	1.0
120°	56.0	39.6	25.1	13.5	4.8	1.0	1.0
122.5°	50.2	35.7	22.2	11.6	3.9	1.0	1.0
125°	45.4	31.9	19.3	9.7	2.9	1.0	1.0
127.5°	40.6	28.0	17.4	8.7	2.9	1.0	1.0
130°	35.7	25.1	14.5	6.8	1.9	1.0	1.0
132.5°	31.9	21.3	12.6	5.8	1.9	1.0	1.0
135°	28.0	18.4	10.6	3.9	1.9	1.0	1.0
137.5°	24.2	15.5	8.7	2.9	1.0	1.0	1.0
140°	20.3	13.5	6.8	2.9	1.0	1.0	1.0
142.5°	17.4	10.6	4.8	1.9	1.0	1.0	1.0
145°	13.5	8.7	3.9	1.9	1.0	1.0	1.0
147.5°	10.6	6.8	2.9	1.9	1.0	1.0	1.0
150°	7.7	4.8	2.9	1.0	1.0	1.0	1.0
152.5°	5.8	3.9	1.9	1.0	1.0	1.0	1.0
155°	3.9	2.9	1.9	1.0	1.0	1.0	1.0
157.5°	2.9	1.9	1.0	1.0	1.0	1.0	1.0
160°	1.9	1.0	1.0	1.0	1.0	1.0	1.0
162.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0
165°	1.0	1.0	1.0	1.0	1.0	1.0	1.0
167.5°	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
172.5°	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
177.5°	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

(END OF REPORT)