

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-L950-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-L950-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
WIDE FROSTED LENS
Light Source: -
Ballast/Driver: -

Summary

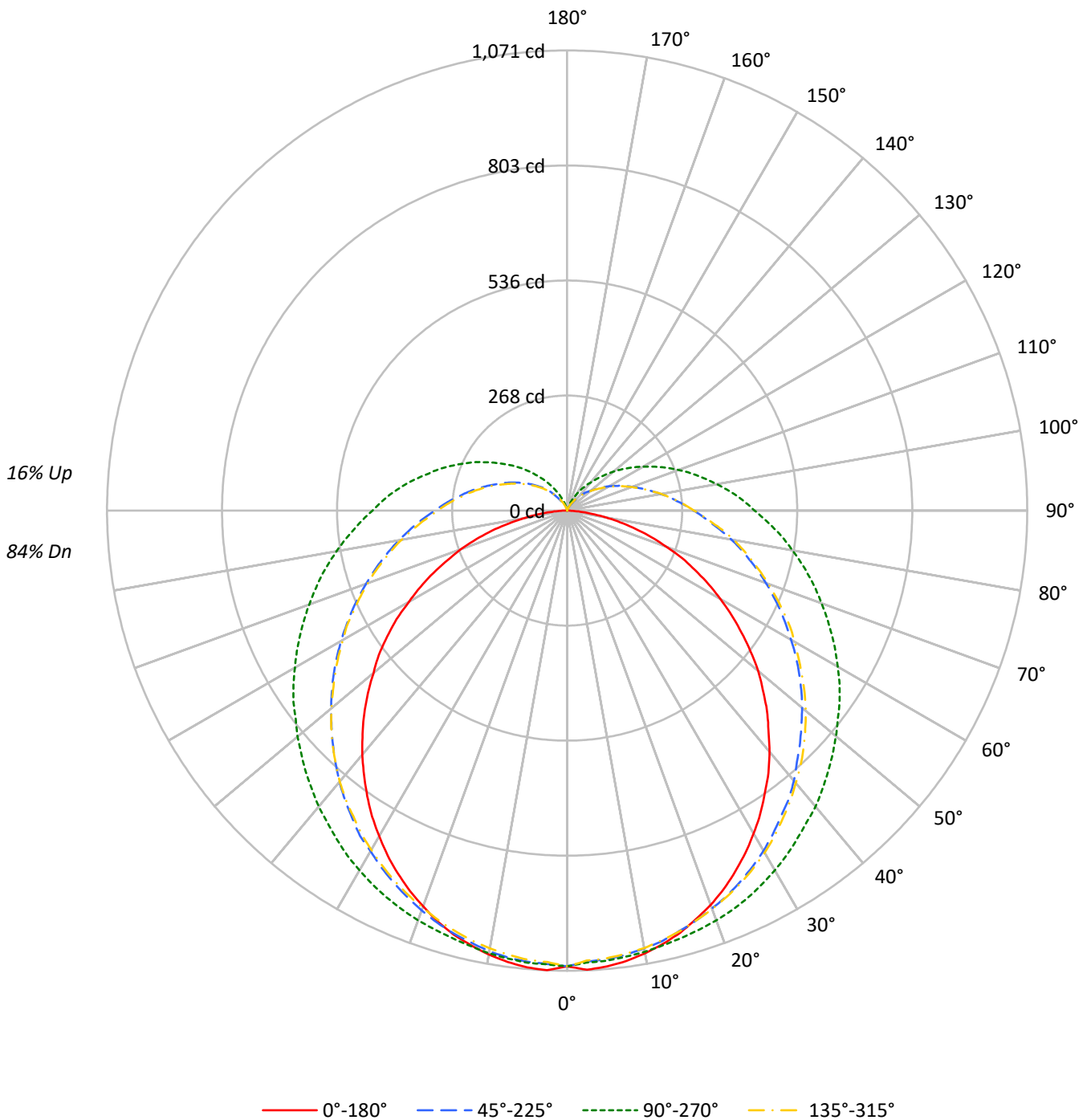
Lumens per Lamp: N/A
Luminaire Lumens: 4608.0 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Semi-Direct

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#
CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	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°	8571	8571	8571	8571
5°	8616	8260	8634	8295
10°	8537	8025	8564	8051
15°	8438	7824	8475	7833
20°	8305	7678	8334	7678
25°	8142	7547	8191	7539
30°	7958	7413	8019	7413
35°	7744	7289	7830	7298
40°	7533	7216	7625	7216
45°	7291	7139	7402	7149
50°	7038	7094	7133	7114
55°	6684	7101	6896	7132
60°	6312	7122	6518	7166
65°	5894	7194	6156	7265
70°	5307	7327	5720	7430
75°	4630	7566	5067	7712
80°	3581	7922	4068	8105
85°	2138	8489	2678	8726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.5	2.2
10°-20°	288.8	6.3
20°-30°	442.7	9.6
30°-40°	546.2	11.9
40°-50°	592.6	12.9
50°-60°	584.1	12.7
60°-70°	528.1	11.5
70°-80°	439.9	9.5
80°-90°	340.7	7.4
90°-100°	258.4	5.6
100°-110°	191.2	4.1
110°-120°	133.0	2.9
120°-130°	84.9	1.8
130°-140°	47.6	1.0
140°-150°	21.7	0.5
150°-160°	6.7	0.1
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	832.0	18.1
0°-40°	1378.2	29.9
0°-60°	2554.8	55.4
0°-90°	3863.5	83.8
90°-120°	582.7	12.6
90°-150°	736.9	16.0
90°-180°	744.0	16.1
0°-180°	4608.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1061	1061	1061	1061	1061	
5°	1065	1052	1067	1056	1065	101
15°	1017	1029	1022	1030	1017	287
25°	926	995	932	994	926	427
35°	802	933	811	934	802	502
45°	658	859	668	860	658	507
55°	496	774	511	778	496	444
65°	329	679	344	686	329	326
75°	166	582	181	593	166	175
85°	31	484	39	498	31	38
90°	1	436	2	453	1	2
95°	1	396	1	415	1	1
105°	1	314	1	333	1	1
115°	1	239	1	261	1	1
125°	1	172	1	191	1	1
135°	1	112	1	132	1	1
145°	1	65	1	79	1	1
155°	1	27	1	37	1	1
165°	1	4	1	7	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-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1069.6	1069.6	1068.5	1066.2	1067.3	1070.7	1068.5	1062.9	1059.5	1050.6	1052.8
5°	1065.1	1065.1	1064.0	1061.7	1062.9	1067.3	1065.1	1060.6	1056.2	1048.3	1051.7
7.5°	1057.3	1057.3	1056.2	1053.9	1056.2	1060.6	1058.4	1053.9	1050.6	1042.7	1046.1
10°	1046.1	1047.2	1046.1	1042.7	1047.2	1051.7	1050.6	1045.0	1041.6	1034.9	1038.3
12.5°	1032.7	1033.8	1032.7	1031.5	1033.8	1040.5	1038.3	1033.8	1031.5	1025.9	1029.3
15°	1017.0	1018.1	1015.9	1015.9	1018.1	1024.8	1024.8	1020.3	1018.1	1012.5	1019.2
17.5°	996.9	998.0	996.9	996.9	999.1	1005.8	1006.9	1004.7	1002.4	1000.2	1006.9
20°	976.7	975.6	975.6	974.5	979.0	989.0	987.9	987.9	985.7	985.7	993.5
22.5°	953.2	953.2	952.1	952.1	957.7	966.6	966.6	968.9	966.6	971.1	977.8
25°	926.4	927.5	926.4	928.6	933.1	943.2	944.3	947.6	948.7	953.2	961.1
27.5°	898.4	899.5	898.4	900.6	908.5	916.3	921.9	926.4	927.5	934.2	944.3
30°	868.2	868.2	869.3	871.5	880.5	892.8	897.3	902.9	902.9	914.1	924.1
32.5°	836.9	836.9	836.9	841.3	851.4	866.0	871.5	878.3	880.5	891.7	902.9
35°	802.2	803.3	803.3	806.7	820.1	834.6	842.5	850.3	854.8	868.2	879.4
37.5°	769.7	772.0	768.6	773.1	792.1	804.4	813.4	821.2	829.0	846.9	855.9
40°	732.8	735.1	733.9	742.9	758.5	774.2	784.3	792.1	803.3	821.2	831.3
42.5°	693.7	695.9	698.1	708.2	725.0	740.6	753.0	763.0	776.5	792.1	808.9
45°	657.9	657.9	661.2	673.5	691.4	708.2	722.7	733.9	749.6	766.4	783.2
47.5°	617.6	618.7	623.2	637.7	656.7	676.9	690.3	704.8	721.6	739.5	758.5
50°	580.7	580.7	587.4	603.0	620.9	643.3	657.9	674.6	692.5	713.8	732.8
52.5°	538.1	540.4	550.5	565.0	588.5	608.6	625.4	643.3	664.6	686.9	708.2
55°	495.6	500.1	507.9	528.1	552.7	571.7	591.8	614.2	634.4	659.0	683.6
57.5°	454.2	457.6	469.9	490.0	515.8	539.3	560.5	581.8	606.4	631.0	656.7
60°	411.7	416.2	430.7	450.9	478.8	503.5	528.1	550.5	576.2	601.9	628.8
62.5°	371.4	374.8	391.6	415.1	443.0	469.9	494.5	521.4	549.3	573.9	600.8
65°	328.9	334.5	353.5	374.8	407.2	434.1	462.1	491.2	520.2	547.1	572.8
67.5°	289.8	293.1	313.3	337.9	370.3	400.5	429.6	460.9	491.2	519.1	544.9
70°	243.9	255.1	275.2	301.0	335.6	367.0	398.3	430.7	463.2	492.3	516.9
72.5°	205.9	214.8	237.2	265.2	298.7	335.6	368.1	402.8	435.2	465.4	491.2
75°	165.6	174.5	200.3	231.6	266.3	305.4	339.0	374.8	408.4	438.6	465.4
77.5°	126.4	137.6	165.6	198.0	236.1	276.3	311.0	346.8	381.5	414.0	440.8
80°	90.6	102.9	133.1	170.1	207.0	247.3	285.3	321.1	355.8	388.2	416.2
82.5°	58.2	71.6	104.0	141.0	180.1	220.4	259.6	295.4	330.0	362.5	391.6
85°	31.3	45.9	79.4	116.4	155.5	195.8	234.9	273.0	306.6	336.8	368.1
87.5°	9.0	26.9	59.3	96.2	136.5	173.4	211.5	249.5	283.1	315.5	343.5
90°	1.1	15.7	44.8	79.4	118.6	154.4	192.4	228.2	261.8	294.2	322.2
92.5°	1.1	10.1	34.7	66.0	101.8	138.7	176.8	211.5	242.8	275.2	303.2
95°	1.1	7.8	28.0	55.9	89.5	124.2	160.0	193.6	226.0	256.2	284.2
97.5°	1.1	5.6	22.4	48.1	78.3	110.8	145.4	179.0	210.3	239.4	265.2
100°	1.1	4.5	17.9	41.4	68.2	99.6	130.9	163.3	193.6	221.5	248.4
102.5°	1.1	3.4	15.7	34.7	60.4	88.4	118.6	148.8	177.9	204.7	231.6
105°	1.1	3.4	13.4	30.2	53.7	79.4	107.4	136.5	163.3	189.1	213.7
107.5°	1.1	2.2	11.2	25.7	47.0	71.6	97.3	125.3	149.9	174.5	198.0
110°	1.1	2.2	9.0	23.5	41.4	63.8	88.4	114.1	137.6	161.1	183.5



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.1	2.2	7.8	20.1	35.8	57.1	79.4	102.9	125.3	148.8	168.9
115°	1.1	2.2	6.7	17.9	33.6	49.2	71.6	92.9	115.2	136.5	155.5
117.5°	1.1	2.2	5.6	14.5	29.1	44.8	62.7	83.9	104.0	124.2	142.1
120°	1.1	2.2	4.5	13.4	25.7	40.3	55.9	75.0	94.0	113.0	132.0
122.5°	1.1	1.1	4.5	11.2	22.4	35.8	51.5	66.0	83.9	101.8	118.6
125°	1.1	1.1	4.5	10.1	19.0	32.4	45.9	59.3	75.0	90.6	105.2
127.5°	1.1	1.1	3.4	7.8	16.8	28.0	40.3	54.8	66.0	80.6	95.1
130°	1.1	1.1	3.4	6.7	14.5	23.5	35.8	48.1	61.5	71.6	83.9
132.5°	1.1	1.1	3.4	5.6	11.2	19.0	30.2	41.4	53.7	64.9	75.0
135°	1.1	1.1	2.2	4.5	9.0	15.7	24.6	34.7	47.0	58.2	68.2
137.5°	1.1	1.1	2.2	4.5	6.7	13.4	19.0	28.0	39.2	49.2	59.3
140°	1.1	1.1	2.2	3.4	5.6	10.1	15.7	22.4	31.3	40.3	51.5
142.5°	1.1	1.1	1.1	3.4	4.5	7.8	12.3	17.9	24.6	32.4	41.4
145°	1.1	1.1	1.1	3.4	4.5	5.6	10.1	14.5	19.0	24.6	32.4
147.5°	1.1	1.1	1.1	2.2	3.4	4.5	7.8	11.2	14.5	19.0	23.5
150°	1.1	1.1	1.1	2.2	3.4	4.5	5.6	7.8	11.2	15.7	19.0
152.5°	1.1	1.1	1.1	2.2	2.2	3.4	4.5	5.6	7.8	11.2	13.4
155°	1.1	1.1	1.1	1.1	2.2	3.4	4.5	4.5	5.6	7.8	10.1
157.5°	1.1	1.1	1.1	1.1	2.2	2.2	3.4	3.4	4.5	4.5	6.7
160°	1.1	1.1	1.1	1.1	1.1	2.2	2.2	3.4	3.4	3.4	3.4
162.5°	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2	3.4	3.4
165°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1052.8	1053.9	1057.3	1057.3	1055.0	1055.0	1053.9	1052.8	1053.9	1056.2	1056.2
5°	1050.6	1051.7	1055.0	1056.2	1053.9	1052.8	1052.8	1051.7	1052.8	1055.0	1055.0
7.5°	1046.1	1047.2	1050.6	1051.7	1049.4	1049.4	1048.3	1047.2	1049.4	1050.6	1050.6
10°	1039.4	1040.5	1045.0	1046.1	1045.0	1043.8	1043.8	1042.7	1043.8	1046.1	1046.1
12.5°	1030.4	1032.7	1038.3	1038.3	1038.3	1037.1	1037.1	1036.0	1037.1	1039.4	1038.3
15°	1020.3	1024.8	1029.3	1031.5	1031.5	1031.5	1030.4	1029.3	1031.5	1032.7	1031.5
17.5°	1009.2	1014.8	1021.5	1023.7	1023.7	1024.8	1023.7	1022.6	1024.8	1024.8	1023.7
20°	998.0	1003.6	1010.3	1012.5	1014.8	1015.9	1015.9	1014.8	1015.9	1017.0	1015.9
22.5°	983.4	990.1	998.0	1001.3	1003.6	1005.8	1005.8	1005.8	1006.9	1008.0	1005.8
25°	967.8	975.6	984.5	987.9	992.4	993.5	994.6	994.6	995.7	996.9	993.5
27.5°	951.0	959.9	968.9	974.5	977.8	980.1	980.1	981.2	982.3	983.4	980.1
30°	930.8	944.3	952.1	956.6	961.1	964.4	965.5	966.6	967.8	968.9	965.5
32.5°	912.9	924.1	934.2	939.8	945.4	949.9	951.0	951.0	953.2	953.2	949.9
35°	891.7	905.1	915.2	920.8	927.5	930.8	933.1	933.1	935.3	935.3	932.0
37.5°	870.4	883.9	895.0	901.8	909.6	914.1	915.2	915.2	917.4	917.4	912.9
40°	848.1	862.6	874.9	882.7	889.4	895.0	896.2	899.5	899.5	898.4	893.9
42.5°	825.7	839.1	852.5	861.5	870.4	876.0	878.3	879.4	879.4	878.3	874.9
45°	801.1	816.7	829.0	840.2	849.2	854.8	858.1	859.2	859.2	857.0	853.6
47.5°	777.6	793.2	805.5	817.8	826.8	833.5	836.9	838.0	836.9	835.7	832.4
50°	753.0	770.9	783.2	795.5	804.4	810.0	815.6	816.7	815.6	814.5	807.8
52.5°	727.2	746.2	759.7	772.0	782.0	788.8	793.2	794.4	794.4	792.1	787.6
55°	701.5	718.3	735.1	748.5	759.7	766.4	772.0	774.2	772.0	769.7	764.1
57.5°	678.0	693.7	710.4	725.0	736.2	745.1	749.6	751.8	749.6	746.2	740.6
60°	650.0	666.8	685.8	699.3	711.6	720.5	722.7	727.2	725.0	721.6	716.0
62.5°	623.2	643.3	660.1	676.9	686.9	697.0	701.5	703.7	701.5	698.1	692.5
65°	595.2	617.6	634.4	651.1	662.3	672.4	678.0	679.1	676.9	673.5	667.9
67.5°	569.5	590.7	608.6	626.5	636.6	646.7	652.3	654.5	652.3	647.8	642.2
70°	543.7	565.0	586.3	599.7	612.0	623.2	626.5	629.9	627.6	623.2	616.5
72.5°	518.0	540.4	561.6	575.1	588.5	598.6	603.0	606.4	604.2	599.7	591.8
75°	491.2	514.6	535.9	550.5	563.9	573.9	578.4	581.8	579.5	575.1	566.1
77.5°	466.5	490.0	510.2	525.8	539.3	548.2	556.0	557.2	554.9	550.5	541.5
80°	440.8	464.3	485.6	501.2	514.6	523.6	529.2	532.6	530.3	525.8	516.9
82.5°	418.4	439.7	460.9	476.6	490.0	501.2	505.7	509.1	507.9	501.2	494.5
85°	393.8	418.4	435.2	452.0	465.4	476.6	480.0	484.4	483.3	477.7	468.8
87.5°	369.2	393.8	414.0	430.7	443.0	452.0	457.6	459.8	458.7	453.1	443.0
90°	349.1	371.4	391.6	409.5	419.6	429.6	435.2	436.3	436.3	429.6	421.8
92.5°	330.0	351.3	371.4	388.2	400.5	409.5	414.0	416.2	415.1	409.5	400.5
95°	308.8	332.3	351.3	368.1	380.4	389.3	393.8	396.1	394.9	389.3	380.4
97.5°	290.9	312.1	331.2	346.8	359.1	368.1	372.6	374.8	374.8	369.2	360.3
100°	273.0	294.2	312.1	327.8	339.0	347.9	352.4	353.5	352.4	347.9	339.0
102.5°	255.1	275.2	293.1	307.7	320.0	327.8	332.3	333.4	333.4	327.8	318.9
105°	237.2	257.3	274.1	289.8	299.8	307.7	311.0	314.4	313.3	308.8	299.8
107.5°	220.4	240.5	256.2	270.8	280.8	288.7	292.0	295.4	294.2	289.8	280.8
110°	204.7	223.8	238.3	252.8	261.8	269.6	275.2	276.3	274.1	269.6	261.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	190.2	207.0	221.5	234.9	245.0	250.6	255.1	257.3	255.1	250.6	245.0
115°	174.5	191.3	205.9	218.2	227.1	233.8	237.2	239.4	237.2	232.7	227.1
117.5°	160.0	175.7	190.2	202.5	210.3	215.9	219.3	221.5	219.3	215.9	210.3
120°	147.7	161.1	174.5	185.7	194.7	199.1	202.5	204.7	203.6	199.1	193.6
122.5°	133.1	147.7	160.0	171.2	179.0	183.5	185.7	188.0	186.8	183.5	177.9
125°	120.8	133.1	145.4	155.5	163.3	167.8	170.1	172.3	171.2	167.8	161.1
127.5°	107.4	120.8	130.9	141.0	146.6	153.3	154.4	156.6	155.5	152.2	146.6
130°	97.3	107.4	117.5	126.4	133.1	137.6	139.9	141.0	138.7	136.5	130.9
132.5°	85.0	96.2	105.2	113.0	117.5	121.9	124.2	125.3	125.3	121.9	117.5
135°	76.1	83.9	91.7	99.6	104.0	108.5	110.8	111.9	110.8	108.5	104.0
137.5°	68.2	75.0	80.6	87.3	92.9	95.1	97.3	97.3	96.2	95.1	91.7
140°	59.3	67.1	72.7	77.2	81.7	82.8	85.0	85.0	83.9	82.8	80.6
142.5°	50.3	57.1	62.7	68.2	71.6	73.8	75.0	76.1	75.0	73.8	70.5
145°	40.3	48.1	53.7	57.1	61.5	62.7	63.8	64.9	63.8	62.7	59.3
147.5°	31.3	38.0	43.6	48.1	51.5	52.6	53.7	54.8	53.7	51.5	50.3
150°	22.4	28.0	34.7	39.2	41.4	43.6	43.6	43.6	44.8	42.5	40.3
152.5°	17.9	20.1	24.6	29.1	32.4	33.6	34.7	34.7	33.6	33.6	31.3
155°	12.3	14.5	17.9	21.3	24.6	25.7	26.9	26.9	25.7	25.7	24.6
157.5°	7.8	10.1	12.3	14.5	17.9	19.0	20.1	20.1	20.1	19.0	17.9
160°	4.5	5.6	6.7	9.0	11.2	12.3	13.4	13.4	13.4	13.4	12.3
162.5°	3.4	3.4	3.4	4.5	5.6	6.7	7.8	7.8	7.8	7.8	6.7
165°	2.2	2.2	2.2	2.2	2.2	3.4	4.5	4.5	4.5	4.5	4.5
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1055.0	1055.0	1056.2	1053.9	1047.2	1048.3	1048.3	1052.8	1055.0	1056.2	1061.7
5°	1052.8	1052.8	1055.0	1051.7	1046.1	1046.1	1046.1	1050.6	1051.7	1053.9	1058.4
7.5°	1049.4	1049.4	1050.6	1047.2	1040.5	1040.5	1039.4	1043.8	1046.1	1047.2	1051.7
10°	1043.8	1043.8	1045.0	1041.6	1033.8	1033.8	1032.7	1036.0	1037.1	1039.4	1042.7
12.5°	1036.0	1036.0	1036.0	1032.7	1024.8	1023.7	1022.6	1025.9	1025.9	1027.1	1030.4
15°	1029.3	1027.1	1027.1	1023.7	1015.9	1013.6	1011.4	1012.5	1014.8	1013.6	1015.9
17.5°	1021.5	1019.2	1017.0	1013.6	1003.6	1000.2	998.0	999.1	998.0	996.9	999.1
20°	1012.5	1009.2	1008.0	1002.4	992.4	986.8	982.3	980.1	981.2	977.8	979.0
22.5°	1002.4	998.0	995.7	989.0	979.0	972.2	966.6	962.2	961.1	956.6	957.7
25°	990.1	984.5	981.2	975.6	964.4	956.6	949.9	943.2	939.8	934.2	933.1
27.5°	975.6	970.0	965.5	959.9	948.7	938.7	930.8	921.9	917.4	910.7	907.4
30°	961.1	954.3	947.6	943.2	930.8	919.7	907.4	899.5	892.8	885.0	879.4
32.5°	943.2	936.4	929.7	923.0	911.8	898.4	888.3	876.0	868.2	859.2	852.5
35°	925.3	916.3	909.6	900.6	890.6	874.9	862.6	850.3	840.2	830.2	822.3
37.5°	905.1	898.4	888.3	880.5	868.2	852.5	839.1	823.4	814.5	801.1	791.0
40°	886.1	878.3	868.2	858.1	845.8	827.9	813.4	795.5	785.4	769.7	759.7
42.5°	867.1	855.9	845.8	834.6	821.2	804.4	786.5	768.6	755.2	740.6	726.1
45°	845.8	833.5	821.2	808.9	795.5	778.7	759.7	740.6	723.9	710.4	692.5
47.5°	823.4	811.1	796.6	783.2	768.6	751.8	731.7	711.6	693.7	678.0	659.0
50°	801.1	788.8	773.1	758.5	741.8	725.0	703.7	680.2	661.2	641.1	624.3
52.5°	777.6	765.3	750.7	731.7	713.8	697.0	674.6	650.0	628.8	612.0	590.7
55°	754.1	741.8	725.0	706.0	688.1	666.8	645.6	620.9	597.4	577.3	556.0
57.5°	729.5	718.3	699.3	683.6	661.2	638.8	616.5	593.0	567.2	543.7	519.1
60°	704.8	692.5	674.6	655.6	633.2	610.9	587.4	561.6	534.8	509.1	486.7
62.5°	682.5	666.8	650.0	629.9	606.4	585.1	558.3	530.3	503.5	476.6	449.8
65°	656.7	640.0	624.3	604.2	579.5	554.9	528.1	500.1	471.0	441.9	415.1
67.5°	631.0	614.2	597.4	577.3	551.6	525.8	497.9	469.9	437.5	409.5	378.2
70°	605.3	591.8	570.6	549.3	525.8	497.9	469.9	439.7	406.1	375.9	343.5
72.5°	579.5	566.1	544.9	522.5	500.1	471.0	440.8	410.6	379.3	344.6	309.9
75°	554.9	538.1	519.1	497.9	474.4	444.2	414.0	382.6	345.7	313.3	277.5
77.5°	531.4	515.8	496.7	473.3	447.5	418.4	387.1	354.7	317.7	283.1	243.9
80°	505.7	490.0	471.0	447.5	421.8	393.8	360.3	326.7	290.9	252.8	212.6
82.5°	481.1	466.5	445.3	424.0	396.1	368.1	334.5	301.0	262.9	226.0	186.8
85°	455.4	440.8	420.7	398.3	371.4	341.2	309.9	276.3	238.3	200.3	161.1
87.5°	433.0	416.2	396.1	373.7	346.8	317.7	287.5	251.7	214.8	177.9	137.6
90°	409.5	393.8	373.7	351.3	324.5	295.4	264.0	230.5	194.7	156.6	118.6
92.5°	389.3	372.6	353.5	331.2	304.3	276.3	245.0	211.5	176.8	139.9	102.9
95°	369.2	352.4	334.5	312.1	285.3	257.3	226.0	193.6	160.0	124.2	89.5
97.5°	346.8	332.3	314.4	293.1	266.3	239.4	209.2	177.9	145.4	110.8	78.3
100°	328.9	312.1	295.4	273.0	248.4	222.6	192.4	162.2	130.9	98.5	68.2
102.5°	308.8	293.1	276.3	255.1	230.5	204.7	176.8	147.7	118.6	88.4	59.3
105°	289.8	275.2	257.3	237.2	213.7	189.1	162.2	135.4	107.4	78.3	52.6
107.5°	270.8	256.2	239.4	220.4	198.0	173.4	148.8	121.9	96.2	70.5	47.0
110°	251.7	238.3	222.6	203.6	182.4	160.0	136.5	111.9	86.1	62.7	41.4



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	234.9	221.5	205.9	188.0	167.8	146.6	124.2	100.7	77.2	55.9	35.8
115°	218.2	205.9	190.2	174.5	154.4	134.3	113.0	90.6	69.4	50.3	31.3
117.5°	201.4	189.1	174.5	158.9	141.0	121.9	101.8	80.6	62.7	44.8	28.0
120°	184.6	173.4	160.0	145.4	129.8	110.8	90.6	72.7	55.9	39.2	24.6
122.5°	168.9	158.9	146.6	133.1	116.4	98.5	81.7	66.0	50.3	34.7	20.1
125°	154.4	144.3	133.1	119.7	104.0	88.4	73.8	59.3	43.6	30.2	16.8
127.5°	139.9	129.8	118.6	106.3	94.0	79.4	66.0	52.6	39.2	26.9	14.5
130°	125.3	116.4	106.3	96.2	83.9	70.5	59.3	45.9	33.6	21.3	12.3
132.5°	110.8	104.0	95.1	85.0	73.8	63.8	51.5	40.3	29.1	19.0	11.2
135°	98.5	91.7	83.9	75.0	66.0	55.9	44.8	34.7	24.6	15.7	9.0
137.5°	87.3	81.7	73.8	66.0	58.2	48.1	39.2	29.1	20.1	13.4	6.7
140°	77.2	71.6	64.9	57.1	50.3	41.4	32.4	23.5	17.9	11.2	5.6
142.5°	67.1	61.5	55.9	49.2	42.5	34.7	26.9	20.1	14.5	9.0	5.6
145°	57.1	52.6	47.0	41.4	34.7	28.0	22.4	16.8	11.2	6.7	4.5
147.5°	47.0	43.6	38.0	33.6	28.0	22.4	17.9	13.4	9.0	5.6	3.4
150°	38.0	34.7	30.2	25.7	22.4	17.9	14.5	10.1	6.7	5.6	3.4
152.5°	29.1	26.9	23.5	21.3	17.9	13.4	10.1	7.8	5.6	4.5	2.2
155°	23.5	21.3	19.0	15.7	13.4	10.1	7.8	5.6	4.5	3.4	2.2
157.5°	16.8	15.7	13.4	11.2	9.0	6.7	5.6	5.6	3.4	2.2	1.1
160°	11.2	10.1	9.0	6.7	5.6	5.6	4.5	3.4	2.2	2.2	1.1
162.5°	6.7	5.6	5.6	5.6	4.5	4.5	3.4	2.2	2.2	1.1	1.1
165°	4.5	4.5	4.5	3.4	3.4	3.4	2.2	1.1	1.1	1.1	1.1
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1061.7	1058.4	1062.9	1070.7	1071.8	1070.7	1068.5	1071.8	1076.3	1075.2	1067.3
5°	1059.5	1055.0	1059.5	1067.3	1067.3	1066.2	1065.1	1068.5	1072.9	1071.8	1065.1
7.5°	1052.8	1048.3	1052.8	1059.5	1060.6	1058.4	1058.4	1061.7	1066.2	1065.1	1059.5
10°	1043.8	1039.4	1041.6	1049.4	1051.7	1049.4	1049.4	1052.8	1058.4	1057.3	1050.6
12.5°	1030.4	1027.1	1029.3	1036.0	1038.3	1037.1	1036.0	1040.5	1046.1	1046.1	1039.4
15°	1015.9	1011.4	1013.6	1021.5	1022.6	1020.3	1021.5	1024.8	1031.5	1031.5	1025.9
17.5°	999.1	993.5	996.9	1002.4	1003.6	1003.6	1003.6	1008.0	1015.9	1014.8	1010.3
20°	980.1	972.2	974.5	980.1	982.3	982.3	982.3	990.1	995.7	995.7	991.3
22.5°	957.7	952.1	952.1	957.7	961.1	959.9	959.9	966.6	974.5	973.4	973.4
25°	932.0	927.5	925.3	932.0	933.1	934.2	936.4	943.2	952.1	952.1	953.2
27.5°	905.1	900.6	899.5	905.1	906.2	907.4	909.6	917.4	926.4	927.5	929.7
30°	879.4	872.7	870.4	874.9	877.1	878.3	878.3	890.6	898.4	901.8	906.2
32.5°	849.2	842.5	836.9	844.7	845.8	848.1	849.2	861.5	870.4	876.0	882.7
35°	819.0	807.8	805.5	811.1	813.4	814.5	816.7	830.2	842.5	846.9	855.9
37.5°	785.4	777.6	770.9	776.5	778.7	779.8	786.5	798.8	811.1	817.8	826.8
40°	754.1	744.0	738.4	741.8	744.0	745.1	753.0	766.4	780.9	788.8	799.9
42.5°	719.4	706.0	701.5	704.8	706.0	709.3	716.0	733.9	748.5	759.7	768.6
45°	684.7	674.6	664.6	667.9	669.0	671.3	681.4	700.4	716.0	729.5	739.5
47.5°	648.9	636.6	626.5	628.8	633.2	634.4	645.6	667.9	682.5	697.0	710.4
50°	613.1	596.3	588.5	588.5	590.7	596.3	610.9	633.2	648.9	665.7	680.2
52.5°	576.2	560.5	551.6	552.7	554.9	561.6	575.1	597.4	615.3	633.2	651.1
55°	539.3	522.5	513.5	511.3	513.5	522.5	538.1	561.6	579.5	600.8	619.8
57.5°	502.3	482.2	474.4	471.0	473.3	484.4	500.1	524.7	547.1	567.2	589.6
60°	462.1	446.4	433.0	425.1	430.7	445.3	462.1	487.8	511.3	533.7	558.3
62.5°	427.4	407.2	392.7	384.9	390.5	402.8	426.3	450.9	476.6	502.3	527.0
65°	388.2	368.1	351.3	343.5	349.1	363.6	387.1	414.0	441.9	467.7	496.7
67.5°	350.2	328.9	308.8	301.0	307.7	323.3	349.1	379.3	409.5	436.3	467.7
70°	313.3	289.8	268.5	262.9	267.4	288.7	313.3	343.5	374.8	406.1	438.6
72.5°	279.7	250.6	228.2	221.5	227.1	250.6	278.6	309.9	343.5	377.0	411.7
75°	240.5	213.7	189.1	181.2	188.0	209.2	243.9	277.5	313.3	349.1	381.5
77.5°	209.2	177.9	152.2	139.9	151.0	177.9	211.5	247.3	284.2	321.1	358.0
80°	176.8	144.3	116.4	102.9	115.2	144.3	177.9	217.0	258.4	295.4	328.9
82.5°	147.7	113.0	83.9	69.4	82.8	115.2	152.2	191.3	231.6	268.5	307.7
85°	120.8	85.0	54.8	39.2	58.2	87.3	126.4	166.7	208.1	246.1	284.2
87.5°	98.5	63.8	33.6	16.8	35.8	68.2	105.2	145.4	186.8	224.9	260.7
90°	80.6	45.9	17.9	2.2	21.3	51.5	87.3	126.4	165.6	204.7	240.5
92.5°	66.0	34.7	10.1	1.1	13.4	41.4	75.0	111.9	149.9	188.0	222.6
95°	54.8	26.9	6.7	1.1	10.1	32.4	63.8	99.6	135.4	172.3	207.0
97.5°	47.0	22.4	5.6	1.1	7.8	28.0	54.8	88.4	123.1	157.8	191.3
100°	40.3	17.9	4.5	1.1	6.7	23.5	48.1	78.3	110.8	144.3	176.8
102.5°	34.7	14.5	3.4	1.1	5.6	20.1	42.5	70.5	99.6	132.0	163.3
105°	30.2	12.3	3.4	1.1	4.5	17.9	38.0	62.7	91.7	120.8	151.0
107.5°	25.7	10.1	2.2	1.1	3.4	14.5	33.6	57.1	82.8	110.8	138.7
110°	22.4	9.0	2.2	1.1	3.4	13.4	29.1	51.5	75.0	100.7	127.5



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	19.0	6.7	2.2	1.1	2.2	11.2	25.7	45.9	68.2	91.7	117.5
115°	16.8	5.6	1.1	1.1	2.2	10.1	23.5	41.4	61.5	83.9	107.4
117.5°	13.4	4.5	1.1	1.1	1.1	7.8	20.1	36.9	55.9	77.2	98.5
120°	11.2	4.5	1.1	1.1	1.1	6.7	17.9	32.4	50.3	69.4	89.5
122.5°	10.1	3.4	1.1	1.1	1.1	5.6	15.7	29.1	44.8	62.7	81.7
125°	9.0	3.4	1.1	1.1	1.1	4.5	13.4	25.7	40.3	55.9	73.8
127.5°	6.7	3.4	1.1	1.1	1.1	3.4	12.3	22.4	35.8	50.3	66.0
130°	5.6	2.2	1.1	1.1	1.1	3.4	10.1	20.1	31.3	44.8	59.3
132.5°	4.5	2.2	1.1	1.1	1.1	2.2	7.8	15.7	26.9	39.2	52.6
135°	4.5	2.2	1.1	1.1	1.1	2.2	5.6	13.4	22.4	33.6	44.8
137.5°	4.5	1.1	1.1	1.1	1.1	2.2	4.5	10.1	17.9	26.9	36.9
140°	3.4	1.1	1.1	1.1	1.1	1.1	3.4	7.8	14.5	22.4	31.3
142.5°	3.4	1.1	1.1	1.1	1.1	1.1	3.4	5.6	11.2	17.9	24.6
145°	2.2	1.1	1.1	1.1	1.1	1.1	2.2	4.5	9.0	13.4	20.1
147.5°	2.2	1.1	1.1	1.1	1.1	1.1	2.2	3.4	6.7	11.2	15.7
150°	2.2	1.1	1.1	1.1	1.1	1.1	2.2	3.4	4.5	7.8	12.3
152.5°	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	3.4	5.6	7.8
155°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	3.4	4.5	5.6
157.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	3.4	4.5
160°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2	3.4
162.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	2.2	2.2
165°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1064.0	1056.2	1058.4	1057.3	1059.5	1062.9	1062.9	1061.7	1061.7	1059.5	1057.3
5°	1061.7	1053.9	1057.3	1056.2	1058.4	1061.7	1061.7	1060.6	1060.6	1057.3	1056.2
7.5°	1055.0	1049.4	1051.7	1051.7	1053.9	1057.3	1057.3	1056.2	1056.2	1052.8	1051.7
10°	1048.3	1041.6	1045.0	1045.0	1047.2	1051.7	1051.7	1050.6	1050.6	1047.2	1046.1
12.5°	1037.1	1030.4	1036.0	1037.1	1039.4	1043.8	1042.7	1042.7	1042.7	1039.4	1038.3
15°	1023.7	1019.2	1024.8	1025.9	1029.3	1034.9	1034.9	1034.9	1034.9	1031.5	1030.4
17.5°	1009.2	1005.8	1011.4	1013.6	1018.1	1023.7	1023.7	1024.8	1025.9	1023.7	1022.6
20°	992.4	990.1	995.7	1000.2	1006.9	1012.5	1014.8	1015.9	1018.1	1015.9	1014.8
22.5°	973.4	973.4	981.2	985.7	993.5	999.1	1002.4	1005.8	1008.0	1005.8	1004.7
25°	952.1	955.5	963.3	971.1	980.1	985.7	989.0	993.5	995.7	994.6	993.5
27.5°	932.0	936.4	946.5	954.3	962.2	971.1	974.5	980.1	982.3	982.3	981.2
30°	908.5	915.2	926.4	935.3	945.4	954.3	958.8	964.4	967.8	965.5	966.6
32.5°	886.1	897.3	906.2	916.3	927.5	936.4	942.0	948.7	952.1	951.0	952.1
35°	861.5	872.7	885.0	895.0	908.5	917.4	925.3	930.8	935.3	934.2	934.2
37.5°	834.6	849.2	861.5	874.9	887.2	897.3	905.1	911.8	916.3	916.3	916.3
40°	808.9	824.6	836.9	852.5	868.2	877.1	886.1	892.8	897.3	898.4	899.5
42.5°	780.9	797.7	812.3	829.0	844.7	855.9	866.0	873.8	878.3	880.5	879.4
45°	755.2	770.9	787.6	806.7	821.2	832.4	844.7	853.6	858.1	859.2	860.4
47.5°	726.1	744.0	763.0	782.0	796.6	811.1	822.3	831.3	835.7	839.1	839.1
50°	698.1	717.2	738.4	758.5	774.2	788.8	799.9	810.0	815.6	817.8	819.0
52.5°	672.4	690.3	712.7	732.8	748.5	763.0	777.6	788.8	794.4	796.6	796.6
55°	641.1	663.5	688.1	707.1	723.9	740.6	755.2	766.4	772.0	775.3	777.6
57.5°	612.0	635.5	661.2	681.4	701.5	717.2	730.6	745.1	749.6	754.1	755.2
60°	584.0	607.5	632.1	654.5	674.6	691.4	707.1	719.4	727.2	729.5	731.7
62.5°	554.9	579.5	605.3	627.6	648.9	669.0	683.6	694.8	703.7	707.1	709.3
65°	527.0	552.7	578.4	601.9	624.3	644.4	659.0	670.2	679.1	684.7	685.8
67.5°	496.7	524.7	551.6	576.2	598.6	619.8	634.4	645.6	654.5	661.2	662.3
70°	468.8	497.9	524.7	551.6	573.9	595.2	610.9	622.1	632.1	636.6	638.8
72.5°	441.9	472.1	500.1	527.0	549.3	570.6	587.4	598.6	608.6	614.2	615.3
75°	416.2	446.4	476.6	502.3	525.8	547.1	563.9	576.2	585.1	590.7	593.0
77.5°	390.5	421.8	452.0	477.7	502.3	523.6	538.1	552.7	561.6	568.4	568.4
80°	364.7	397.2	428.5	454.2	478.8	497.9	514.6	529.2	538.1	544.9	544.9
82.5°	342.4	373.7	403.9	429.6	454.2	475.5	492.3	505.7	515.8	520.2	521.4
85°	316.6	351.3	379.3	407.2	430.7	450.9	467.7	482.2	491.2	495.6	497.9
87.5°	295.4	328.9	359.1	383.7	407.2	427.4	446.4	458.7	467.7	473.3	475.5
90°	275.2	307.7	337.9	362.5	387.1	406.1	424.0	436.3	446.4	450.9	453.1
92.5°	257.3	289.8	318.9	343.5	367.0	388.2	405.0	417.3	426.3	430.7	434.1
95°	240.5	271.9	299.8	326.7	349.1	368.1	386.0	398.3	408.4	411.7	415.1
97.5°	223.8	254.0	281.9	307.7	331.2	349.1	365.8	378.2	386.0	391.6	394.9
100°	209.2	238.3	265.2	289.8	312.1	328.9	346.8	358.0	365.8	370.3	374.8
102.5°	193.6	222.6	248.4	271.9	295.4	311.0	327.8	339.0	345.7	353.5	353.5
105°	180.1	207.0	232.7	255.1	275.2	294.2	308.8	320.0	327.8	333.4	333.4
107.5°	165.6	192.4	217.0	240.5	259.6	277.5	290.9	301.0	309.9	313.3	316.6
110°	154.4	177.9	202.5	224.9	242.8	259.6	273.0	284.2	292.0	295.4	297.6



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	141.0	165.6	188.0	209.2	227.1	242.8	256.2	265.2	273.0	277.5	278.6
115°	129.8	153.3	173.4	193.6	212.6	226.0	238.3	247.3	255.1	258.4	260.7
117.5°	119.7	141.0	161.1	177.9	195.8	210.3	222.6	230.5	237.2	241.7	243.9
120°	109.6	129.8	147.7	164.5	181.2	194.7	205.9	213.7	221.5	224.9	224.9
122.5°	99.6	118.6	135.4	151.0	166.7	179.0	191.3	198.0	204.7	208.1	208.1
125°	90.6	108.5	124.2	138.7	153.3	164.5	174.5	182.4	189.1	191.3	191.3
127.5°	81.7	98.5	113.0	126.4	138.7	149.9	160.0	167.8	173.4	175.7	175.7
130°	73.8	88.4	101.8	115.2	127.5	136.5	146.6	153.3	156.6	160.0	161.1
132.5°	66.0	79.4	91.7	102.9	115.2	124.2	132.0	138.7	142.1	145.4	146.6
135°	58.2	70.5	81.7	92.9	102.9	111.9	118.6	124.2	128.7	130.9	132.0
137.5°	49.2	62.7	72.7	81.7	92.9	99.6	107.4	110.8	115.2	117.5	117.5
140°	41.4	51.5	62.7	71.6	80.6	87.3	94.0	99.6	102.9	104.0	104.0
142.5°	33.6	42.5	51.5	62.7	70.5	76.1	82.8	87.3	89.5	90.6	91.7
145°	26.9	33.6	41.4	51.5	60.4	67.1	70.5	75.0	77.2	78.3	79.4
147.5°	20.1	26.9	33.6	40.3	49.2	55.9	59.3	63.8	66.0	67.1	67.1
150°	15.7	20.1	24.6	31.3	38.0	45.9	50.3	53.7	54.8	55.9	55.9
152.5°	11.2	15.7	19.0	23.5	28.0	34.7	41.4	43.6	44.8	45.9	45.9
155°	7.8	11.2	13.4	16.8	20.1	25.7	31.3	34.7	35.8	36.9	36.9
157.5°	5.6	7.8	9.0	12.3	14.5	16.8	21.3	26.9	28.0	28.0	28.0
160°	3.4	4.5	5.6	7.8	9.0	11.2	13.4	16.8	20.1	20.1	20.1
162.5°	2.2	3.4	3.4	4.5	4.5	6.7	7.8	9.0	12.3	13.4	13.4
165°	1.1	2.2	2.2	2.2	2.2	2.2	3.4	3.4	5.6	6.7	6.7
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1058.4	1060.6	1059.5	1059.5	1059.5	1061.7	1059.5	1049.4	1051.7	1053.9	1056.2
5°	1057.3	1058.4	1058.4	1057.3	1057.3	1059.5	1057.3	1047.2	1049.4	1051.7	1052.8
7.5°	1052.8	1053.9	1053.9	1053.9	1052.8	1055.0	1051.7	1042.7	1042.7	1045.0	1046.1
10°	1047.2	1049.4	1048.3	1047.2	1047.2	1047.2	1045.0	1034.9	1034.9	1036.0	1037.1
12.5°	1040.5	1040.5	1040.5	1039.4	1038.3	1038.3	1036.0	1025.9	1024.8	1027.1	1025.9
15°	1031.5	1033.8	1031.5	1030.4	1028.2	1028.2	1024.8	1014.8	1012.5	1013.6	1012.5
17.5°	1023.7	1024.8	1022.6	1020.3	1018.1	1017.0	1013.6	1002.4	999.1	1000.2	998.0
20°	1015.9	1015.9	1013.6	1011.4	1008.0	1004.7	1000.2	989.0	983.4	983.4	979.0
22.5°	1005.8	1005.8	1003.6	1000.2	996.9	992.4	987.9	976.7	967.8	965.5	962.2
25°	994.6	993.5	992.4	989.0	982.3	977.8	973.4	961.1	951.0	946.5	940.9
27.5°	981.2	981.2	977.8	974.5	967.8	962.2	956.6	945.4	932.0	926.4	918.5
30°	966.6	966.6	963.3	958.8	952.1	945.4	938.7	925.3	911.8	904.0	895.0
32.5°	952.1	951.0	947.6	943.2	936.4	926.4	920.8	907.4	891.7	882.7	870.4
35°	934.2	933.1	929.7	924.1	915.2	907.4	898.4	886.1	868.2	857.0	843.6
37.5°	916.3	915.2	912.9	905.1	896.2	887.2	876.0	863.7	846.9	832.4	819.0
40°	898.4	897.3	892.8	887.2	876.0	864.8	853.6	841.3	823.4	806.7	792.1
42.5°	879.4	878.3	872.7	866.0	853.6	842.5	829.0	815.6	797.7	777.6	763.0
45°	860.4	858.1	852.5	844.7	831.3	819.0	805.5	789.9	772.0	753.0	733.9
47.5°	840.2	836.9	831.3	820.1	808.9	795.5	779.8	763.0	745.1	723.9	703.7
50°	817.8	815.6	808.9	798.8	785.4	772.0	754.1	737.3	716.0	695.9	671.3
52.5°	796.6	792.1	786.5	775.3	761.9	747.4	728.3	708.2	686.9	667.9	642.2
55°	774.2	772.0	764.1	755.2	738.4	721.6	703.7	682.5	659.0	636.6	612.0
57.5°	753.0	748.5	741.8	729.5	714.9	698.1	679.1	656.7	631.0	607.5	580.7
60°	731.7	725.0	717.2	706.0	690.3	672.4	652.3	628.8	603.0	577.3	549.3
62.5°	708.2	702.6	693.7	682.5	666.8	647.8	626.5	601.9	577.3	550.5	520.2
65°	684.7	679.1	670.2	659.0	643.3	622.1	599.7	575.1	547.1	521.4	488.9
67.5°	661.2	655.6	645.6	633.2	617.6	597.4	573.9	548.2	520.2	492.3	458.7
70°	637.7	631.0	622.1	608.6	593.0	571.7	548.2	521.4	493.4	463.2	429.6
72.5°	614.2	608.6	597.4	585.1	568.4	547.1	523.6	496.7	467.7	436.3	402.8
75°	590.7	584.0	576.2	561.6	543.7	523.6	499.0	472.1	440.8	410.6	375.9
77.5°	567.2	561.6	551.6	537.0	520.2	499.0	474.4	447.5	416.2	384.9	347.9
80°	543.7	537.0	529.2	515.8	496.7	475.5	449.8	422.9	391.6	359.1	322.2
82.5°	520.2	513.5	504.6	491.2	473.3	452.0	427.4	398.3	367.0	333.4	298.7
85°	496.7	491.2	481.1	467.7	448.6	427.4	402.8	377.0	343.5	309.9	275.2
87.5°	473.3	467.7	457.6	444.2	426.3	405.0	380.4	353.5	321.1	289.8	251.7
90°	450.9	446.4	436.3	422.9	405.0	383.7	361.4	332.3	301.0	269.6	233.8
92.5°	430.7	426.3	417.3	403.9	388.2	364.7	342.4	314.4	283.1	250.6	215.9
95°	412.8	407.2	398.3	386.0	367.0	346.8	324.5	296.5	266.3	233.8	200.3
97.5°	392.7	387.1	378.2	364.7	349.1	327.8	305.4	278.6	248.4	218.2	184.6
100°	372.6	367.0	356.9	345.7	330.0	308.8	287.5	260.7	232.7	203.6	171.2
102.5°	352.4	346.8	337.9	326.7	311.0	292.0	270.8	245.0	217.0	188.0	157.8
105°	333.4	327.8	318.9	307.7	293.1	274.1	251.7	229.4	202.5	174.5	145.4
107.5°	314.4	308.8	301.0	289.8	275.2	257.3	236.1	212.6	188.0	161.1	133.1
110°	295.4	290.9	281.9	271.9	257.3	239.4	220.4	198.0	173.4	148.8	121.9



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	277.5	273.0	264.0	252.8	240.5	223.8	204.7	183.5	160.0	136.5	110.8
115°	259.6	254.0	246.1	236.1	223.8	208.1	190.2	171.2	147.7	125.3	101.8
117.5°	241.7	237.2	229.4	219.3	208.1	192.4	175.7	157.8	135.4	114.1	92.9
120°	223.8	220.4	212.6	203.6	192.4	177.9	162.2	144.3	124.2	104.0	83.9
122.5°	207.0	203.6	195.8	188.0	176.8	163.3	148.8	132.0	114.1	95.1	77.2
125°	191.3	186.8	180.1	172.3	162.2	149.9	135.4	119.7	102.9	86.1	69.4
127.5°	174.5	171.2	166.7	157.8	147.7	136.5	123.1	109.6	94.0	78.3	62.7
130°	161.1	156.6	151.0	144.3	135.4	124.2	111.9	98.5	85.0	70.5	54.8
132.5°	145.4	141.0	136.5	129.8	121.9	111.9	100.7	88.4	76.1	62.7	49.2
135°	130.9	127.5	123.1	116.4	108.5	100.7	89.5	78.3	67.1	54.8	43.6
137.5°	117.5	114.1	109.6	105.2	97.3	89.5	79.4	69.4	59.3	48.1	38.0
140°	104.0	101.8	97.3	92.9	86.1	78.3	69.4	60.4	51.5	41.4	32.4
142.5°	90.6	88.4	85.0	80.6	75.0	68.2	60.4	52.6	43.6	35.8	28.0
145°	78.3	77.2	73.8	69.4	64.9	58.2	51.5	44.8	36.9	30.2	22.4
147.5°	66.0	64.9	62.7	59.3	54.8	49.2	43.6	36.9	31.3	24.6	17.9
150°	54.8	53.7	52.6	48.1	45.9	40.3	35.8	30.2	25.7	19.0	14.5
152.5°	44.8	44.8	42.5	39.2	36.9	32.4	29.1	24.6	20.1	15.7	11.2
155°	35.8	34.7	33.6	31.3	29.1	25.7	22.4	19.0	15.7	11.2	7.8
157.5°	28.0	26.9	25.7	23.5	21.3	20.1	16.8	13.4	10.1	7.8	5.6
160°	20.1	19.0	17.9	16.8	15.7	13.4	11.2	9.0	6.7	4.5	3.4
162.5°	13.4	12.3	12.3	11.2	10.1	7.8	6.7	5.6	4.5	3.4	2.2
165°	6.7	6.7	5.6	5.6	4.5	3.4	3.4	3.4	2.2	2.2	1.1
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6	1060.6
2.5°	1055.0	1055.0	1059.5	1058.4	1055.0	1061.7	1069.6
5°	1051.7	1051.7	1055.0	1055.0	1051.7	1058.4	1065.1
7.5°	1046.1	1045.0	1048.3	1048.3	1043.8	1049.4	1057.3
10°	1036.0	1034.9	1038.3	1038.3	1033.8	1039.4	1046.1
12.5°	1024.8	1022.6	1025.9	1024.8	1020.3	1025.9	1032.7
15°	1010.3	1009.2	1011.4	1009.2	1004.7	1010.3	1017.0
17.5°	995.7	992.4	993.5	993.5	985.7	991.3	996.9
20°	976.7	972.2	973.4	972.2	966.6	970.0	976.7
22.5°	957.7	951.0	951.0	949.9	943.2	947.6	953.2
25°	934.2	926.4	926.4	925.3	917.4	920.8	926.4
27.5°	910.7	902.9	899.5	898.4	890.6	890.6	898.4
30°	886.1	874.9	872.7	869.3	861.5	861.5	868.2
32.5°	862.6	846.9	842.5	838.0	830.2	829.0	836.9
35°	831.3	819.0	811.1	806.7	797.7	795.5	802.2
37.5°	805.5	789.9	778.7	773.1	764.1	760.8	769.7
40°	777.6	760.8	746.2	742.9	729.5	725.0	732.8
42.5°	746.2	728.3	713.8	707.1	697.0	692.5	693.7
45°	714.9	695.9	680.2	671.3	661.2	653.4	657.9
47.5°	682.5	665.7	646.7	633.2	620.9	615.3	617.6
50°	650.0	629.9	612.0	597.4	582.9	576.2	580.7
52.5°	617.6	596.3	576.2	560.5	543.7	537.0	538.1
55°	586.3	563.9	540.4	523.6	507.9	497.9	495.6
57.5°	554.9	530.3	505.7	486.7	466.5	457.6	454.2
60°	521.4	495.6	469.9	447.5	426.3	416.2	411.7
62.5°	490.0	462.1	433.0	409.5	388.2	374.8	371.4
65°	459.8	427.4	398.3	371.4	347.9	333.4	328.9
67.5°	427.4	393.8	362.5	333.4	311.0	292.0	289.8
70°	397.2	361.4	326.7	296.5	271.9	252.8	243.9
72.5°	367.0	330.0	294.2	261.8	230.5	212.6	205.9
75°	337.9	299.8	261.8	228.2	193.6	172.3	165.6
77.5°	311.0	271.9	231.6	194.7	162.2	135.4	126.4
80°	285.3	245.0	202.5	164.5	129.8	100.7	90.6
82.5°	258.4	220.4	176.8	136.5	100.7	70.5	58.2
85°	234.9	196.9	153.3	113.0	77.2	44.8	31.3
87.5°	215.9	174.5	135.4	95.1	58.2	25.7	9.0
90°	196.9	156.6	117.5	78.3	43.6	14.5	1.1
92.5°	180.1	142.1	102.9	67.1	33.6	10.1	1.1
95°	164.5	127.5	90.6	55.9	26.9	6.7	1.1
97.5°	149.9	115.2	80.6	48.1	22.4	5.6	1.1
100°	137.6	104.0	71.6	42.5	19.0	4.5	1.1
102.5°	125.3	94.0	63.8	36.9	16.8	3.4	1.1
105°	115.2	85.0	57.1	33.6	14.5	3.4	1.1
107.5°	105.2	77.2	51.5	29.1	12.3	2.2	1.1
110°	95.1	70.5	45.9	25.7	11.2	2.2	1.1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-54HL-LW-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	87.3	63.8	41.4	23.5	9.0	2.2	1.1
115°	79.4	57.1	36.9	20.1	7.8	1.1	1.1
117.5°	71.6	51.5	32.4	17.9	6.7	1.1	1.1
120°	64.9	45.9	29.1	15.7	5.6	1.1	1.1
122.5°	58.2	41.4	25.7	13.4	4.5	1.1	1.1
125°	52.6	36.9	22.4	11.2	3.4	1.1	1.1
127.5°	47.0	32.4	20.1	10.1	3.4	1.1	1.1
130°	41.4	29.1	16.8	7.8	2.2	1.1	1.1
132.5°	36.9	24.6	14.5	6.7	2.2	1.1	1.1
135°	32.4	21.3	12.3	4.5	2.2	1.1	1.1
137.5°	28.0	17.9	10.1	3.4	1.1	1.1	1.1
140°	23.5	15.7	7.8	3.4	1.1	1.1	1.1
142.5°	20.1	12.3	5.6	2.2	1.1	1.1	1.1
145°	15.7	10.1	4.5	2.2	1.1	1.1	1.1
147.5°	12.3	7.8	3.4	2.2	1.1	1.1	1.1
150°	9.0	5.6	3.4	1.1	1.1	1.1	1.1
152.5°	6.7	4.5	2.2	1.1	1.1	1.1	1.1
155°	4.5	3.4	2.2	1.1	1.1	1.1	1.1
157.5°	3.4	2.2	1.1	1.1	1.1	1.1	1.1
160°	2.2	1.1	1.1	1.1	1.1	1.1	1.1
162.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1
165°	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)