

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-LD5-48HL-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-LD5-48HL-LW-UNV-L930-CD1-U  
Description: 4FT LINEAR SNLED LED FIXTURE  
WIDE FROSTED LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

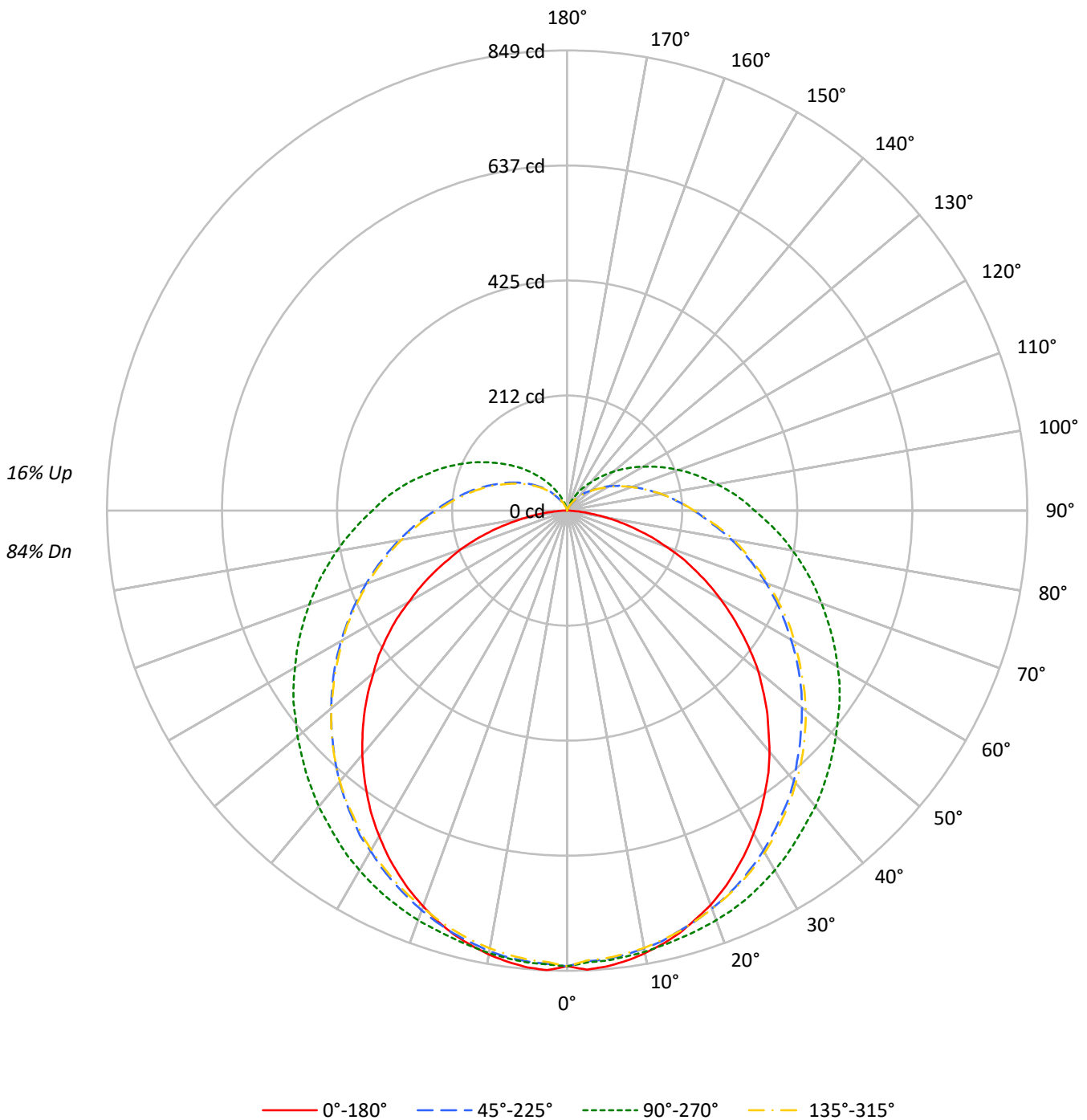
Lumens per Lamp: N/A  
Luminaire Lumens: 3652.0 lumens  
Efficiency: N/A  
Efficacy: 93.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')  
CIE Type: Semi-Direct

Input Watts (W): 39  
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	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°	6793	6793	6793	6793
5°	6829	6546	6843	6574
10°	6766	6360	6787	6381
15°	6687	6201	6716	6207
20°	6582	6085	6604	6085
25°	6452	5982	6491	5975
30°	6307	5875	6356	5875
35°	6138	5777	6206	5784
40°	5970	5719	6043	5719
45°	5778	5659	5867	5666
50°	5578	5622	5653	5638
55°	5298	5628	5465	5653
60°	5003	5644	5165	5680
65°	4672	5701	4878	5758
70°	4206	5806	4535	5889
75°	3669	5996	4015	6111
80°	2838	6278	3226	6422
85°	1694	6728	2118	6916



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.6	2.2
10°-20°	228.9	6.3
20°-30°	350.9	9.6
30°-40°	432.9	11.9
40°-50°	469.6	12.9
50°-60°	462.9	12.7
60°-70°	418.5	11.5
70°-80°	348.7	9.5
80°-90°	270.0	7.4
90°-100°	204.8	5.6
100°-110°	151.6	4.2
110°-120°	105.4	2.9
120°-130°	67.3	1.8
130°-140°	37.7	1.0
140°-150°	17.2	0.5
150°-160°	5.3	0.1
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	659.4	18.1
0°-40°	1092.2	29.9
0°-60°	2024.8	55.4
0°-90°	3062.0	83.8
90°-120°	461.8	12.6
90°-150°	584.0	16.0
90°-180°	590.0	16.2
0°-180°	3652.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	841	841	841	841	841	
5°	844	834	846	837	844	80
15°	806	816	810	817	806	227
25°	734	788	739	787	734	338
35°	636	740	643	740	636	398
45°	521	681	529	682	521	402
55°	393	614	405	616	393	352
65°	261	538	272	544	261	258
75°	131	461	144	470	131	139
85°	25	384	31	395	25	30
90°	1	346	2	359	1	1
95°	1	314	1	329	1	1
105°	1	249	1	264	1	1
115°	1	190	1	207	1	1
125°	1	137	1	152	1	1
135°	1	89	1	105	1	1
145°	1	51	1	63	1	1
155°	1	21	1	29	1	0
165°	1	4	1	5	1	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	847.7	847.7	846.8	845.0	845.9	848.6	846.8	842.4	839.7	832.6	834.4
5°	844.1	844.1	843.2	841.5	842.4	845.9	844.1	840.6	837.0	830.8	833.5
7.5°	837.9	837.9	837.0	835.3	837.0	840.6	838.8	835.3	832.6	826.4	829.1
10°	829.1	829.9	829.1	826.4	829.9	833.5	832.6	828.2	825.5	820.2	822.8
12.5°	818.4	819.3	818.4	817.5	819.3	824.6	822.8	819.3	817.5	813.1	815.8
15°	806.0	806.9	805.1	805.1	806.9	812.2	812.2	808.7	806.9	802.5	807.8
17.5°	790.0	790.9	790.0	790.0	791.8	797.1	798.0	796.2	794.5	792.7	798.0
20°	774.1	773.2	773.2	772.3	775.9	783.8	782.9	782.9	781.2	781.2	787.4
22.5°	755.5	755.5	754.6	754.6	759.0	766.1	766.1	767.9	766.1	769.6	775.0
25°	734.2	735.1	734.2	736.0	739.5	747.5	748.4	751.0	751.9	755.5	761.7
27.5°	712.0	712.9	712.0	713.8	720.0	726.2	730.6	734.2	735.1	740.4	748.4
30°	688.1	688.1	689.0	690.7	697.8	707.6	711.1	715.6	715.6	724.4	732.4
32.5°	663.2	663.2	663.2	666.8	674.8	686.3	690.7	696.1	697.8	706.7	715.6
35°	635.8	636.6	636.6	639.3	649.9	661.5	667.7	673.9	677.4	688.1	696.9
37.5°	610.0	611.8	609.2	612.7	627.8	637.5	644.6	650.8	657.0	671.2	678.3
40°	580.8	582.6	581.7	588.8	601.2	613.6	621.6	627.8	636.6	650.8	658.8
42.5°	549.7	551.5	553.3	561.3	574.6	587.0	596.7	604.7	615.4	627.8	641.1
45°	521.4	521.4	524.0	533.8	548.0	561.3	572.8	581.7	594.1	607.4	620.7
47.5°	489.5	490.3	493.9	505.4	520.5	536.4	547.1	558.6	571.9	586.1	601.2
50°	460.2	460.2	465.5	477.9	492.1	509.8	521.4	534.7	548.9	565.7	580.8
52.5°	426.5	428.3	436.3	447.8	466.4	482.4	495.7	509.8	526.7	544.4	561.3
55°	392.8	396.4	402.6	418.5	438.0	453.1	469.1	486.8	502.8	522.3	541.8
57.5°	360.0	362.7	372.4	388.4	408.8	427.4	444.2	461.1	480.6	500.1	520.5
60°	326.3	329.8	341.4	357.3	379.5	399.0	418.5	436.3	456.6	477.0	498.3
62.5°	294.4	297.0	310.3	329.0	351.1	372.4	391.9	413.2	435.4	454.9	476.2
65°	260.7	265.1	280.2	297.0	322.8	344.0	366.2	389.3	412.3	433.6	454.0
67.5°	229.7	232.3	248.3	267.8	293.5	317.4	340.5	365.3	389.3	411.4	431.8
70°	193.3	202.2	218.1	238.5	266.0	290.8	315.7	341.4	367.1	390.1	409.7
72.5°	163.2	170.2	188.0	210.1	236.7	266.0	291.7	319.2	344.9	368.9	389.3
75°	131.2	138.3	158.7	183.5	211.0	242.1	268.7	297.0	323.6	347.6	368.9
77.5°	100.2	109.1	131.2	156.9	187.1	219.0	246.5	274.9	302.4	328.1	349.4
80°	71.8	81.6	105.5	134.8	164.0	196.0	226.1	254.5	282.0	307.7	329.8
82.5°	46.1	56.7	82.5	111.7	142.8	174.7	205.7	234.1	261.6	287.3	310.3
85°	24.8	36.4	63.0	92.2	123.3	155.2	186.2	216.4	243.0	266.9	291.7
87.5°	7.1	21.3	47.0	76.3	108.2	137.4	167.6	197.7	224.3	250.0	272.2
90°	0.9	12.4	35.5	63.0	94.0	122.4	152.5	180.9	207.5	233.2	255.4
92.5°	0.9	8.0	27.5	52.3	80.7	109.9	140.1	167.6	192.4	218.1	240.3
95°	0.9	6.2	22.2	44.3	70.9	98.4	126.8	153.4	179.1	203.1	225.2
97.5°	0.9	4.4	17.7	38.1	62.1	87.8	115.3	141.9	166.7	189.8	210.1
100°	0.9	3.5	14.2	32.8	54.1	78.9	103.7	129.5	153.4	175.6	196.8
102.5°	0.9	2.7	12.4	27.5	47.9	70.0	94.0	117.9	141.0	162.3	183.5
105°	0.9	2.7	10.6	23.9	42.6	63.0	85.1	108.2	129.5	149.9	169.4
107.5°	0.9	1.8	8.9	20.4	37.2	56.7	77.1	99.3	118.8	138.3	156.9
110°	0.9	1.8	7.1	18.6	32.8	50.5	70.0	90.4	109.1	127.7	145.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.9	1.8	6.2	16.0	28.4	45.2	63.0	81.6	99.3	117.9	133.9
115°	0.9	1.8	5.3	14.2	26.6	39.0	56.7	73.6	91.3	108.2	123.3
117.5°	0.9	1.8	4.4	11.5	23.1	35.5	49.7	66.5	82.5	98.4	112.6
120°	0.9	1.8	3.5	10.6	20.4	31.9	44.3	59.4	74.5	89.6	104.6
122.5°	0.9	0.9	3.5	8.9	17.7	28.4	40.8	52.3	66.5	80.7	94.0
125°	0.9	0.9	3.5	8.0	15.1	25.7	36.4	47.0	59.4	71.8	83.3
127.5°	0.9	0.9	2.7	6.2	13.3	22.2	31.9	43.4	52.3	63.8	75.4
130°	0.9	0.9	2.7	5.3	11.5	18.6	28.4	38.1	48.8	56.7	66.5
132.5°	0.9	0.9	2.7	4.4	8.9	15.1	23.9	32.8	42.6	51.4	59.4
135°	0.9	0.9	1.8	3.5	7.1	12.4	19.5	27.5	37.2	46.1	54.1
137.5°	0.9	0.9	1.8	3.5	5.3	10.6	15.1	22.2	31.0	39.0	47.0
140°	0.9	0.9	1.8	2.7	4.4	8.0	12.4	17.7	24.8	31.9	40.8
142.5°	0.9	0.9	0.9	2.7	3.5	6.2	9.8	14.2	19.5	25.7	32.8
145°	0.9	0.9	0.9	2.7	3.5	4.4	8.0	11.5	15.1	19.5	25.7
147.5°	0.9	0.9	0.9	1.8	2.7	3.5	6.2	8.9	11.5	15.1	18.6
150°	0.9	0.9	0.9	1.8	2.7	3.5	4.4	6.2	8.9	12.4	15.1
152.5°	0.9	0.9	0.9	1.8	1.8	2.7	3.5	4.4	6.2	8.9	10.6
155°	0.9	0.9	0.9	0.9	1.8	2.7	3.5	3.5	4.4	6.2	8.0
157.5°	0.9	0.9	0.9	0.9	1.8	1.8	2.7	2.7	3.5	3.5	5.3
160°	0.9	0.9	0.9	0.9	0.9	1.8	1.8	2.7	2.7	2.7	2.7
162.5°	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8	1.8	2.7	2.7
165°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8	1.8
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



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	834.4	835.3	837.9	837.9	836.1	836.1	835.3	834.4	835.3	837.0	837.0
5°	832.6	833.5	836.1	837.0	835.3	834.4	834.4	833.5	834.4	836.1	836.1
7.5°	829.1	829.9	832.6	833.5	831.7	831.7	830.8	829.9	831.7	832.6	832.6
10°	823.7	824.6	828.2	829.1	828.2	827.3	827.3	826.4	827.3	829.1	829.1
12.5°	816.6	818.4	822.8	822.8	822.8	822.0	822.0	821.1	822.0	823.7	822.8
15°	808.7	812.2	815.8	817.5	817.5	817.5	816.6	815.8	817.5	818.4	817.5
17.5°	799.8	804.2	809.5	811.3	811.3	812.2	811.3	810.4	812.2	812.2	811.3
20°	790.9	795.4	800.7	802.5	804.2	805.1	805.1	804.2	805.1	806.0	805.1
22.5°	779.4	784.7	790.9	793.6	795.4	797.1	797.1	797.1	798.0	798.9	797.1
25°	767.0	773.2	780.3	782.9	786.5	787.4	788.3	788.3	789.2	790.0	787.4
27.5°	753.7	760.8	767.9	772.3	775.0	776.7	776.7	777.6	778.5	779.4	776.7
30°	737.7	748.4	754.6	758.1	761.7	764.3	765.2	766.1	767.0	767.9	765.2
32.5°	723.5	732.4	740.4	744.8	749.3	752.8	753.7	753.7	755.5	755.5	752.8
35°	706.7	717.3	725.3	729.7	735.1	737.7	739.5	739.5	741.3	741.3	738.6
37.5°	689.8	700.5	709.4	714.7	720.9	724.4	725.3	725.3	727.1	727.1	723.5
40°	672.1	683.6	693.4	699.6	704.9	709.4	710.2	712.9	712.9	712.0	708.5
42.5°	654.4	665.0	675.7	682.8	689.8	694.3	696.1	696.9	696.9	696.1	693.4
45°	634.9	647.3	657.0	665.9	673.0	677.4	680.1	681.0	681.0	679.2	676.5
47.5°	616.3	628.7	638.4	648.2	655.3	660.6	663.2	664.1	663.2	662.4	659.7
50°	596.7	610.9	620.7	630.4	637.5	642.0	646.4	647.3	646.4	645.5	640.2
52.5°	576.3	591.4	602.1	611.8	619.8	625.1	628.7	629.6	629.6	627.8	624.2
55°	556.0	569.3	582.6	593.2	602.1	607.4	611.8	613.6	611.8	610.0	605.6
57.5°	537.3	549.7	563.0	574.6	583.4	590.5	594.1	595.9	594.1	591.4	587.0
60°	515.2	528.5	543.5	554.2	563.9	571.0	572.8	576.3	574.6	571.9	567.5
62.5°	493.9	509.8	523.1	536.4	544.4	552.4	556.0	557.7	556.0	553.3	548.9
65°	471.7	489.5	502.8	516.1	524.9	532.9	537.3	538.2	536.4	533.8	529.4
67.5°	451.3	468.2	482.4	496.5	504.5	512.5	516.9	518.7	516.9	513.4	509.0
70°	430.9	447.8	464.6	475.3	485.0	493.9	496.5	499.2	497.4	493.9	488.6
72.5°	410.5	428.3	445.1	455.8	466.4	474.4	477.9	480.6	478.8	475.3	469.1
75°	389.3	407.9	424.7	436.3	446.9	454.9	458.4	461.1	459.3	455.8	448.7
77.5°	369.8	388.4	404.3	416.7	427.4	434.5	440.7	441.6	439.8	436.3	429.2
80°	349.4	368.0	384.8	397.2	407.9	415.0	419.4	422.1	420.3	416.7	409.7
82.5°	331.6	348.5	365.3	377.7	388.4	397.2	400.8	403.4	402.6	397.2	391.9
85°	312.1	331.6	344.9	358.2	368.9	377.7	380.4	383.9	383.1	378.6	371.5
87.5°	292.6	312.1	328.1	341.4	351.1	358.2	362.7	364.4	363.5	359.1	351.1
90°	276.6	294.4	310.3	324.5	332.5	340.5	344.9	345.8	345.8	340.5	334.3
92.5°	261.6	278.4	294.4	307.7	317.4	324.5	328.1	329.8	329.0	324.5	317.4
95°	244.7	263.3	278.4	291.7	301.5	308.6	312.1	313.9	313.0	308.6	301.5
97.5°	230.5	247.4	262.5	274.9	284.6	291.7	295.3	297.0	297.0	292.6	285.5
100°	216.4	233.2	247.4	259.8	268.7	275.8	279.3	280.2	279.3	275.8	268.7
102.5°	202.2	218.1	232.3	243.8	253.6	259.8	263.3	264.2	264.2	259.8	252.7
105°	188.0	203.9	217.2	229.7	237.6	243.8	246.5	249.2	248.3	244.7	237.6
107.5°	174.7	190.6	203.1	214.6	222.6	228.8	231.4	234.1	233.2	229.7	222.6
110°	162.3	177.3	188.9	200.4	207.5	213.7	218.1	219.0	217.2	213.7	207.5





TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	150.7	164.0	175.6	186.2	194.2	198.6	202.2	203.9	202.2	198.6	194.2
115°	138.3	151.6	163.2	172.9	180.0	185.3	188.0	189.8	188.0	184.4	180.0
117.5°	126.8	139.2	150.7	160.5	166.7	171.1	173.8	175.6	173.8	171.1	166.7
120°	117.0	127.7	138.3	147.2	154.3	157.8	160.5	162.3	161.4	157.8	153.4
122.5°	105.5	117.0	126.8	135.7	141.9	145.4	147.2	149.0	148.1	145.4	141.0
125°	95.8	105.5	115.3	123.3	129.5	133.0	134.8	136.6	135.7	133.0	127.7
127.5°	85.1	95.8	103.7	111.7	116.2	121.5	122.4	124.1	123.3	120.6	116.2
130°	77.1	85.1	93.1	100.2	105.5	109.1	110.8	111.7	109.9	108.2	103.7
132.5°	67.4	76.3	83.3	89.6	93.1	96.6	98.4	99.3	99.3	96.6	93.1
135°	60.3	66.5	72.7	78.9	82.5	86.0	87.8	88.7	87.8	86.0	82.5
137.5°	54.1	59.4	63.8	69.2	73.6	75.4	77.1	77.1	76.3	75.4	72.7
140°	47.0	53.2	57.6	61.2	64.7	65.6	67.4	67.4	66.5	65.6	63.8
142.5°	39.9	45.2	49.7	54.1	56.7	58.5	59.4	60.3	59.4	58.5	55.9
145°	31.9	38.1	42.6	45.2	48.8	49.7	50.5	51.4	50.5	49.7	47.0
147.5°	24.8	30.1	34.6	38.1	40.8	41.7	42.6	43.4	42.6	40.8	39.9
150°	17.7	22.2	27.5	31.0	32.8	34.6	34.6	34.6	35.5	33.7	31.9
152.5°	14.2	16.0	19.5	23.1	25.7	26.6	27.5	27.5	26.6	26.6	24.8
155°	9.8	11.5	14.2	16.8	19.5	20.4	21.3	21.3	20.4	20.4	19.5
157.5°	6.2	8.0	9.8	11.5	14.2	15.1	16.0	16.0	16.0	15.1	14.2
160°	3.5	4.4	5.3	7.1	8.9	9.8	10.6	10.6	10.6	10.6	9.8
162.5°	2.7	2.7	2.7	3.5	4.4	5.3	6.2	6.2	6.2	6.2	5.3
165°	1.8	1.8	1.8	1.8	1.8	2.7	3.5	3.5	3.5	3.5	3.5
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-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	836.1	836.1	837.0	835.3	829.9	830.8	830.8	834.4	836.1	837.0	841.5
5°	834.4	834.4	836.1	833.5	829.1	829.1	829.1	832.6	833.5	835.3	838.8
7.5°	831.7	831.7	832.6	829.9	824.6	824.6	823.7	827.3	829.1	829.9	833.5
10°	827.3	827.3	828.2	825.5	819.3	819.3	818.4	821.1	822.0	823.7	826.4
12.5°	821.1	821.1	821.1	818.4	812.2	811.3	810.4	813.1	813.1	814.0	816.6
15°	815.8	814.0	814.0	811.3	805.1	803.3	801.6	802.5	804.2	803.3	805.1
17.5°	809.5	807.8	806.0	803.3	795.4	792.7	790.9	791.8	790.9	790.0	791.8
20°	802.5	799.8	798.9	794.5	786.5	782.1	778.5	776.7	777.6	775.0	775.9
22.5°	794.5	790.9	789.2	783.8	775.9	770.5	766.1	762.6	761.7	758.1	759.0
25°	784.7	780.3	777.6	773.2	764.3	758.1	752.8	747.5	744.8	740.4	739.5
27.5°	773.2	768.8	765.2	760.8	751.9	743.9	737.7	730.6	727.1	721.8	719.1
30°	761.7	756.3	751.0	747.5	737.7	728.9	719.1	712.9	707.6	701.4	696.9
32.5°	747.5	742.2	736.8	731.5	722.7	712.0	704.0	694.3	688.1	681.0	675.7
35°	733.3	726.2	720.9	713.8	705.8	693.4	683.6	673.9	665.9	657.9	651.7
37.5°	717.3	712.0	704.0	697.8	688.1	675.7	665.0	652.6	645.5	634.9	626.9
40°	702.3	696.1	688.1	680.1	670.3	656.2	644.6	630.4	622.5	610.0	602.1
42.5°	687.2	678.3	670.3	661.5	650.8	637.5	623.3	609.2	598.5	587.0	575.5
45°	670.3	660.6	650.8	641.1	630.4	617.1	602.1	587.0	573.7	563.0	548.9
47.5°	652.6	642.9	631.3	620.7	609.2	595.9	579.9	563.9	549.7	537.3	522.3
50°	634.9	625.1	612.7	601.2	587.9	574.6	557.7	539.1	524.0	508.1	494.8
52.5°	616.3	606.5	595.0	579.9	565.7	552.4	534.7	515.2	498.3	485.0	468.2
55°	597.6	587.9	574.6	559.5	545.3	528.5	511.6	492.1	473.5	457.5	440.7
57.5°	578.1	569.3	554.2	541.8	524.0	506.3	488.6	469.9	449.6	430.9	411.4
60°	558.6	548.9	534.7	519.6	501.9	484.1	465.5	445.1	423.8	403.4	385.7
62.5°	540.9	528.5	515.2	499.2	480.6	463.7	442.5	420.3	399.0	377.7	356.4
65°	520.5	507.2	494.8	478.8	459.3	439.8	418.5	396.4	373.3	350.2	329.0
67.5°	500.1	486.8	473.5	457.5	437.1	416.7	394.6	372.4	346.7	324.5	299.7
70°	479.7	469.1	452.2	435.4	416.7	394.6	372.4	348.5	321.9	297.9	272.2
72.5°	459.3	448.7	431.8	414.1	396.4	373.3	349.4	325.4	300.6	273.1	245.6
75°	439.8	426.5	411.4	394.6	376.0	352.0	328.1	303.2	274.0	248.3	219.9
77.5°	421.2	408.8	393.7	375.1	354.7	331.6	306.8	281.1	251.8	224.3	193.3
80°	400.8	388.4	373.3	354.7	334.3	312.1	285.5	258.9	230.5	200.4	168.5
82.5°	381.3	369.8	352.9	336.1	313.9	291.7	265.1	238.5	208.4	179.1	148.1
85°	360.9	349.4	333.4	315.7	294.4	270.4	245.6	219.0	188.9	158.7	127.7
87.5°	343.1	329.8	313.9	296.2	274.9	251.8	227.9	199.5	170.2	141.0	109.1
90°	324.5	312.1	296.2	278.4	257.1	234.1	209.3	182.7	154.3	124.1	94.0
92.5°	308.6	295.3	280.2	262.5	241.2	219.0	194.2	167.6	140.1	110.8	81.6
95°	292.6	279.3	265.1	247.4	226.1	203.9	179.1	153.4	126.8	98.4	70.9
97.5°	274.9	263.3	249.2	232.3	211.0	189.8	165.8	141.0	115.3	87.8	62.1
100°	260.7	247.4	234.1	216.4	196.8	176.5	152.5	128.6	103.7	78.0	54.1
102.5°	244.7	232.3	219.0	202.2	182.7	162.3	140.1	117.0	94.0	70.0	47.0
105°	229.7	218.1	203.9	188.0	169.4	149.9	128.6	107.3	85.1	62.1	41.7
107.5°	214.6	203.1	189.8	174.7	156.9	137.4	117.9	96.6	76.3	55.9	37.2
110°	199.5	188.9	176.5	161.4	144.5	126.8	108.2	88.7	68.3	49.7	32.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	186.2	175.6	163.2	149.0	133.0	116.2	98.4	79.8	61.2	44.3	28.4
115°	172.9	163.2	150.7	138.3	122.4	106.4	89.6	71.8	55.0	39.9	24.8
117.5°	159.6	149.9	138.3	125.9	111.7	96.6	80.7	63.8	49.7	35.5	22.2
120°	146.3	137.4	126.8	115.3	102.9	87.8	71.8	57.6	44.3	31.0	19.5
122.5°	133.9	125.9	116.2	105.5	92.2	78.0	64.7	52.3	39.9	27.5	16.0
125°	122.4	114.4	105.5	94.9	82.5	70.0	58.5	47.0	34.6	23.9	13.3
127.5°	110.8	102.9	94.0	84.2	74.5	63.0	52.3	41.7	31.0	21.3	11.5
130°	99.3	92.2	84.2	76.3	66.5	55.9	47.0	36.4	26.6	16.8	9.8
132.5°	87.8	82.5	75.4	67.4	58.5	50.5	40.8	31.9	23.1	15.1	8.9
135°	78.0	72.7	66.5	59.4	52.3	44.3	35.5	27.5	19.5	12.4	7.1
137.5°	69.2	64.7	58.5	52.3	46.1	38.1	31.0	23.1	16.0	10.6	5.3
140°	61.2	56.7	51.4	45.2	39.9	32.8	25.7	18.6	14.2	8.9	4.4
142.5°	53.2	48.8	44.3	39.0	33.7	27.5	21.3	16.0	11.5	7.1	4.4
145°	45.2	41.7	37.2	32.8	27.5	22.2	17.7	13.3	8.9	5.3	3.5
147.5°	37.2	34.6	30.1	26.6	22.2	17.7	14.2	10.6	7.1	4.4	2.7
150°	30.1	27.5	23.9	20.4	17.7	14.2	11.5	8.0	5.3	4.4	2.7
152.5°	23.1	21.3	18.6	16.8	14.2	10.6	8.0	6.2	4.4	3.5	1.8
155°	18.6	16.8	15.1	12.4	10.6	8.0	6.2	4.4	3.5	2.7	1.8
157.5°	13.3	12.4	10.6	8.9	7.1	5.3	4.4	4.4	2.7	1.8	0.9
160°	8.9	8.0	7.1	5.3	4.4	4.4	3.5	2.7	1.8	1.8	0.9
162.5°	5.3	4.4	4.4	4.4	3.5	3.5	2.7	1.8	1.8	0.9	0.9
165°	3.5	3.5	3.5	2.7	2.7	2.7	1.8	0.9	0.9	0.9	0.9
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-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	841.5	838.8	842.4	848.6	849.5	848.6	846.8	849.5	853.0	852.1	845.9
5°	839.7	836.1	839.7	845.9	845.9	845.0	844.1	846.8	850.3	849.5	844.1
7.5°	834.4	830.8	834.4	839.7	840.6	838.8	838.8	841.5	845.0	844.1	839.7
10°	827.3	823.7	825.5	831.7	833.5	831.7	831.7	834.4	838.8	837.9	832.6
12.5°	816.6	814.0	815.8	821.1	822.8	822.0	821.1	824.6	829.1	829.1	823.7
15°	805.1	801.6	803.3	809.5	810.4	808.7	809.5	812.2	817.5	817.5	813.1
17.5°	791.8	787.4	790.0	794.5	795.4	795.4	795.4	798.9	805.1	804.2	800.7
20°	776.7	770.5	772.3	776.7	778.5	778.5	778.5	784.7	789.2	789.2	785.6
22.5°	759.0	754.6	754.6	759.0	761.7	760.8	760.8	766.1	772.3	771.4	771.4
25°	738.6	735.1	733.3	738.6	739.5	740.4	742.2	747.5	754.6	754.6	755.5
27.5°	717.3	713.8	712.9	717.3	718.2	719.1	720.9	727.1	734.2	735.1	736.8
30°	696.9	691.6	689.8	693.4	695.2	696.1	696.1	705.8	712.0	714.7	718.2
32.5°	673.0	667.7	663.2	669.5	670.3	672.1	673.0	682.8	689.8	694.3	699.6
35°	649.1	640.2	638.4	642.9	644.6	645.5	647.3	657.9	667.7	671.2	678.3
37.5°	622.5	616.3	610.9	615.4	617.1	618.0	623.3	633.1	642.9	648.2	655.3
40°	597.6	589.6	585.2	587.9	589.6	590.5	596.7	607.4	618.9	625.1	634.0
42.5°	570.1	559.5	556.0	558.6	559.5	562.2	567.5	581.7	593.2	602.1	609.2
45°	542.7	534.7	526.7	529.4	530.2	532.0	540.0	555.1	567.5	578.1	586.1
47.5°	514.3	504.5	496.5	498.3	501.9	502.8	511.6	529.4	540.9	552.4	563.0
50°	485.9	472.6	466.4	466.4	468.2	472.6	484.1	501.9	514.3	527.6	539.1
52.5°	456.6	444.2	437.1	438.0	439.8	445.1	455.8	473.5	487.7	501.9	516.1
55°	427.4	414.1	407.0	405.2	407.0	414.1	426.5	445.1	459.3	476.2	491.2
57.5°	398.1	382.2	376.0	373.3	375.1	383.9	396.4	415.9	433.6	449.6	467.3
60°	366.2	353.8	343.1	336.9	341.4	352.9	366.2	386.6	405.2	423.0	442.5
62.5°	338.7	322.8	311.2	305.0	309.5	319.2	337.8	357.3	377.7	398.1	417.6
65°	307.7	291.7	278.4	272.2	276.6	288.2	306.8	328.1	350.2	370.6	393.7
67.5°	277.5	260.7	244.7	238.5	243.8	256.3	276.6	300.6	324.5	345.8	370.6
70°	248.3	229.7	212.8	208.4	211.9	228.8	248.3	272.2	297.0	321.9	347.6
72.5°	221.7	198.6	180.9	175.6	180.0	198.6	220.8	245.6	272.2	298.8	326.3
75°	190.6	169.4	149.9	143.6	149.0	165.8	193.3	219.9	248.3	276.6	302.4
77.5°	165.8	141.0	120.6	110.8	119.7	141.0	167.6	196.0	225.2	254.5	283.7
80°	140.1	114.4	92.2	81.6	91.3	114.4	141.0	172.0	204.8	234.1	260.7
82.5°	117.0	89.6	66.5	55.0	65.6	91.3	120.6	151.6	183.5	212.8	243.8
85°	95.8	67.4	43.4	31.0	46.1	69.2	100.2	132.1	164.9	195.1	225.2
87.5°	78.0	50.5	26.6	13.3	28.4	54.1	83.3	115.3	148.1	178.2	206.6
90°	63.8	36.4	14.2	1.8	16.8	40.8	69.2	100.2	131.2	162.3	190.6
92.5°	52.3	27.5	8.0	0.9	10.6	32.8	59.4	88.7	118.8	149.0	176.5
95°	43.4	21.3	5.3	0.9	8.0	25.7	50.5	78.9	107.3	136.6	164.0
97.5°	37.2	17.7	4.4	0.9	6.2	22.2	43.4	70.0	97.5	125.0	151.6
100°	31.9	14.2	3.5	0.9	5.3	18.6	38.1	62.1	87.8	114.4	140.1
102.5°	27.5	11.5	2.7	0.9	4.4	16.0	33.7	55.9	78.9	104.6	129.5
105°	23.9	9.8	2.7	0.9	3.5	14.2	30.1	49.7	72.7	95.8	119.7
107.5°	20.4	8.0	1.8	0.9	2.7	11.5	26.6	45.2	65.6	87.8	109.9
110°	17.7	7.1	1.8	0.9	2.7	10.6	23.1	40.8	59.4	79.8	101.1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	15.1	5.3	1.8	0.9	1.8	8.9	20.4	36.4	54.1	72.7	93.1
115°	13.3	4.4	0.9	0.9	1.8	8.0	18.6	32.8	48.8	66.5	85.1
117.5°	10.6	3.5	0.9	0.9	0.9	6.2	16.0	29.3	44.3	61.2	78.0
120°	8.9	3.5	0.9	0.9	0.9	5.3	14.2	25.7	39.9	55.0	70.9
122.5°	8.0	2.7	0.9	0.9	0.9	4.4	12.4	23.1	35.5	49.7	64.7
125°	7.1	2.7	0.9	0.9	0.9	3.5	10.6	20.4	31.9	44.3	58.5
127.5°	5.3	2.7	0.9	0.9	0.9	2.7	9.8	17.7	28.4	39.9	52.3
130°	4.4	1.8	0.9	0.9	0.9	2.7	8.0	16.0	24.8	35.5	47.0
132.5°	3.5	1.8	0.9	0.9	0.9	1.8	6.2	12.4	21.3	31.0	41.7
135°	3.5	1.8	0.9	0.9	0.9	1.8	4.4	10.6	17.7	26.6	35.5
137.5°	3.5	0.9	0.9	0.9	0.9	1.8	3.5	8.0	14.2	21.3	29.3
140°	2.7	0.9	0.9	0.9	0.9	0.9	2.7	6.2	11.5	17.7	24.8
142.5°	2.7	0.9	0.9	0.9	0.9	0.9	2.7	4.4	8.9	14.2	19.5
145°	1.8	0.9	0.9	0.9	0.9	0.9	1.8	3.5	7.1	10.6	16.0
147.5°	1.8	0.9	0.9	0.9	0.9	0.9	1.8	2.7	5.3	8.9	12.4
150°	1.8	0.9	0.9	0.9	0.9	0.9	1.8	2.7	3.5	6.2	9.8
152.5°	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8	2.7	4.4	6.2
155°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.7	3.5	4.4
157.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8	2.7	3.5
160°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8	2.7
162.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
165°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	843.2	837.0	838.8	837.9	839.7	842.4	842.4	841.5	841.5	839.7	837.9
5°	841.5	835.3	837.9	837.0	838.8	841.5	841.5	840.6	840.6	837.9	837.0
7.5°	836.1	831.7	833.5	833.5	835.3	837.9	837.9	837.0	837.0	834.4	833.5
10°	830.8	825.5	828.2	828.2	829.9	833.5	833.5	832.6	832.6	829.9	829.1
12.5°	822.0	816.6	821.1	822.0	823.7	827.3	826.4	826.4	826.4	823.7	822.8
15°	811.3	807.8	812.2	813.1	815.8	820.2	820.2	820.2	820.2	817.5	816.6
17.5°	799.8	797.1	801.6	803.3	806.9	811.3	811.3	812.2	813.1	811.3	810.4
20°	786.5	784.7	789.2	792.7	798.0	802.5	804.2	805.1	806.9	805.1	804.2
22.5°	771.4	771.4	777.6	781.2	787.4	791.8	794.5	797.1	798.9	797.1	796.2
25°	754.6	757.2	763.4	769.6	776.7	781.2	783.8	787.4	789.2	788.3	787.4
27.5°	738.6	742.2	750.1	756.3	762.6	769.6	772.3	776.7	778.5	778.5	777.6
30°	720.0	725.3	734.2	741.3	749.3	756.3	759.9	764.3	767.0	765.2	766.1
32.5°	702.3	711.1	718.2	726.2	735.1	742.2	746.6	751.9	754.6	753.7	754.6
35°	682.8	691.6	701.4	709.4	720.0	727.1	733.3	737.7	741.3	740.4	740.4
37.5°	661.5	673.0	682.8	693.4	703.1	711.1	717.3	722.7	726.2	726.2	726.2
40°	641.1	653.5	663.2	675.7	688.1	695.2	702.3	707.6	711.1	712.0	712.9
42.5°	618.9	632.2	643.7	657.0	669.5	678.3	686.3	692.5	696.1	697.8	696.9
45°	598.5	610.9	624.2	639.3	650.8	659.7	669.5	676.5	680.1	681.0	681.9
47.5°	575.5	589.6	604.7	619.8	631.3	642.9	651.7	658.8	662.4	665.0	665.0
50°	553.3	568.4	585.2	601.2	613.6	625.1	634.0	642.0	646.4	648.2	649.1
52.5°	532.9	547.1	564.8	580.8	593.2	604.7	616.3	625.1	629.6	631.3	631.3
55°	508.1	525.8	545.3	560.4	573.7	587.0	598.5	607.4	611.8	614.5	616.3
57.5°	485.0	503.6	524.0	540.0	556.0	568.4	579.0	590.5	594.1	597.6	598.5
60°	462.9	481.5	501.0	518.7	534.7	548.0	560.4	570.1	576.3	578.1	579.9
62.5°	439.8	459.3	479.7	497.4	514.3	530.2	541.8	550.6	557.7	560.4	562.2
65°	417.6	438.0	458.4	477.0	494.8	510.7	522.3	531.1	538.2	542.7	543.5
67.5°	393.7	415.9	437.1	456.6	474.4	491.2	502.8	511.6	518.7	524.0	524.9
70°	371.5	394.6	415.9	437.1	454.9	471.7	484.1	493.0	501.0	504.5	506.3
72.5°	350.2	374.2	396.4	417.6	435.4	452.2	465.5	474.4	482.4	486.8	487.7
75°	329.8	353.8	377.7	398.1	416.7	433.6	446.9	456.6	463.7	468.2	469.9
77.5°	309.5	334.3	358.2	378.6	398.1	415.0	426.5	438.0	445.1	450.4	450.4
80°	289.1	314.8	339.6	360.0	379.5	394.6	407.9	419.4	426.5	431.8	431.8
82.5°	271.3	296.2	320.1	340.5	360.0	376.8	390.1	400.8	408.8	412.3	413.2
85°	250.9	278.4	300.6	322.8	341.4	357.3	370.6	382.2	389.3	392.8	394.6
87.5°	234.1	260.7	284.6	304.1	322.8	338.7	353.8	363.5	370.6	375.1	376.8
90°	218.1	243.8	267.8	287.3	306.8	321.9	336.1	345.8	353.8	357.3	359.1
92.5°	203.9	229.7	252.7	272.2	290.8	307.7	321.0	330.7	337.8	341.4	344.0
95°	190.6	215.5	237.6	258.9	276.6	291.7	305.9	315.7	323.6	326.3	329.0
97.5°	177.3	201.3	223.4	243.8	262.5	276.6	289.9	299.7	305.9	310.3	313.0
100°	165.8	188.9	210.1	229.7	247.4	260.7	274.9	283.7	289.9	293.5	297.0
102.5°	153.4	176.5	196.8	215.5	234.1	246.5	259.8	268.7	274.0	280.2	280.2
105°	142.8	164.0	184.4	202.2	218.1	233.2	244.7	253.6	259.8	264.2	264.2
107.5°	131.2	152.5	172.0	190.6	205.7	219.9	230.5	238.5	245.6	248.3	250.9
110°	122.4	141.0	160.5	178.2	192.4	205.7	216.4	225.2	231.4	234.1	235.9



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	111.7	131.2	149.0	165.8	180.0	192.4	203.1	210.1	216.4	219.9	220.8
115°	102.9	121.5	137.4	153.4	168.5	179.1	188.9	196.0	202.2	204.8	206.6
117.5°	94.9	111.7	127.7	141.0	155.2	166.7	176.5	182.7	188.0	191.5	193.3
120°	86.9	102.9	117.0	130.3	143.6	154.3	163.2	169.4	175.6	178.2	178.2
122.5°	78.9	94.0	107.3	119.7	132.1	141.9	151.6	156.9	162.3	164.9	164.9
125°	71.8	86.0	98.4	109.9	121.5	130.3	138.3	144.5	149.9	151.6	151.6
127.5°	64.7	78.0	89.6	100.2	109.9	118.8	126.8	133.0	137.4	139.2	139.2
130°	58.5	70.0	80.7	91.3	101.1	108.2	116.2	121.5	124.1	126.8	127.7
132.5°	52.3	63.0	72.7	81.6	91.3	98.4	104.6	109.9	112.6	115.3	116.2
135°	46.1	55.9	64.7	73.6	81.6	88.7	94.0	98.4	102.0	103.7	104.6
137.5°	39.0	49.7	57.6	64.7	73.6	78.9	85.1	87.8	91.3	93.1	93.1
140°	32.8	40.8	49.7	56.7	63.8	69.2	74.5	78.9	81.6	82.5	82.5
142.5°	26.6	33.7	40.8	49.7	55.9	60.3	65.6	69.2	70.9	71.8	72.7
145°	21.3	26.6	32.8	40.8	47.9	53.2	55.9	59.4	61.2	62.1	63.0
147.5°	16.0	21.3	26.6	31.9	39.0	44.3	47.0	50.5	52.3	53.2	53.2
150°	12.4	16.0	19.5	24.8	30.1	36.4	39.9	42.6	43.4	44.3	44.3
152.5°	8.9	12.4	15.1	18.6	22.2	27.5	32.8	34.6	35.5	36.4	36.4
155°	6.2	8.9	10.6	13.3	16.0	20.4	24.8	27.5	28.4	29.3	29.3
157.5°	4.4	6.2	7.1	9.8	11.5	13.3	16.8	21.3	22.2	22.2	22.2
160°	2.7	3.5	4.4	6.2	7.1	8.9	10.6	13.3	16.0	16.0	16.0
162.5°	1.8	2.7	2.7	3.5	3.5	5.3	6.2	7.1	9.8	10.6	10.6
165°	0.9	1.8	1.8	1.8	1.8	1.8	2.7	2.7	4.4	5.3	5.3
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-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	838.8	840.6	839.7	839.7	839.7	841.5	839.7	831.7	833.5	835.3	837.0
5°	837.9	838.8	838.8	837.9	837.9	839.7	837.9	829.9	831.7	833.5	834.4
7.5°	834.4	835.3	835.3	835.3	834.4	836.1	833.5	826.4	826.4	828.2	829.1
10°	829.9	831.7	830.8	829.9	829.9	829.9	828.2	820.2	820.2	821.1	822.0
12.5°	824.6	824.6	824.6	823.7	822.8	822.8	821.1	813.1	812.2	814.0	813.1
15°	817.5	819.3	817.5	816.6	814.9	814.9	812.2	804.2	802.5	803.3	802.5
17.5°	811.3	812.2	810.4	808.7	806.9	806.0	803.3	794.5	791.8	792.7	790.9
20°	805.1	805.1	803.3	801.6	798.9	796.2	792.7	783.8	779.4	779.4	775.9
22.5°	797.1	797.1	795.4	792.7	790.0	786.5	782.9	774.1	767.0	765.2	762.6
25°	788.3	787.4	786.5	783.8	778.5	775.0	771.4	761.7	753.7	750.1	745.7
27.5°	777.6	777.6	775.0	772.3	767.0	762.6	758.1	749.3	738.6	734.2	728.0
30°	766.1	766.1	763.4	759.9	754.6	749.3	743.9	733.3	722.7	716.4	709.4
32.5°	754.6	753.7	751.0	747.5	742.2	734.2	729.7	719.1	706.7	699.6	689.8
35°	740.4	739.5	736.8	732.4	725.3	719.1	712.0	702.3	688.1	679.2	668.6
37.5°	726.2	725.3	723.5	717.3	710.2	703.1	694.3	684.5	671.2	659.7	649.1
40°	712.0	711.1	707.6	703.1	694.3	685.4	676.5	666.8	652.6	639.3	627.8
42.5°	696.9	696.1	691.6	686.3	676.5	667.7	657.0	646.4	632.2	616.3	604.7
45°	681.9	680.1	675.7	669.5	658.8	649.1	638.4	626.0	611.8	596.7	581.7
47.5°	665.9	663.2	658.8	649.9	641.1	630.4	618.0	604.7	590.5	573.7	557.7
50°	648.2	646.4	641.1	633.1	622.5	611.8	597.6	584.3	567.5	551.5	532.0
52.5°	631.3	627.8	623.3	614.5	603.8	592.3	577.2	561.3	544.4	529.4	509.0
55°	613.6	611.8	605.6	598.5	585.2	571.9	557.7	540.9	522.3	504.5	485.0
57.5°	596.7	593.2	587.9	578.1	566.6	553.3	538.2	520.5	500.1	481.5	460.2
60°	579.9	574.6	568.4	559.5	547.1	532.9	516.9	498.3	477.9	457.5	435.4
62.5°	561.3	556.8	549.7	540.9	528.5	513.4	496.5	477.0	457.5	436.3	412.3
65°	542.7	538.2	531.1	522.3	509.8	493.0	475.3	455.8	433.6	413.2	387.5
67.5°	524.0	519.6	511.6	501.9	489.5	473.5	454.9	434.5	412.3	390.1	363.5
70°	505.4	500.1	493.0	482.4	469.9	453.1	434.5	413.2	391.0	367.1	340.5
72.5°	486.8	482.4	473.5	463.7	450.4	433.6	415.0	393.7	370.6	345.8	319.2
75°	468.2	462.9	456.6	445.1	430.9	415.0	395.5	374.2	349.4	325.4	297.9
77.5°	449.6	445.1	437.1	425.6	412.3	395.5	376.0	354.7	329.8	305.0	275.8
80°	430.9	425.6	419.4	408.8	393.7	376.8	356.4	335.2	310.3	284.6	255.4
82.5°	412.3	407.0	399.9	389.3	375.1	358.2	338.7	315.7	290.8	264.2	236.7
85°	393.7	389.3	381.3	370.6	355.6	338.7	319.2	298.8	272.2	245.6	218.1
87.5°	375.1	370.6	362.7	352.0	337.8	321.0	301.5	280.2	254.5	229.7	199.5
90°	357.3	353.8	345.8	335.2	321.0	304.1	286.4	263.3	238.5	213.7	185.3
92.5°	341.4	337.8	330.7	320.1	307.7	289.1	271.3	249.2	224.3	198.6	171.1
95°	327.2	322.8	315.7	305.9	290.8	274.9	257.1	235.0	211.0	185.3	158.7
97.5°	311.2	306.8	299.7	289.1	276.6	259.8	242.1	220.8	196.8	172.9	146.3
100°	295.3	290.8	282.9	274.0	261.6	244.7	227.9	206.6	184.4	161.4	135.7
102.5°	279.3	274.9	267.8	258.9	246.5	231.4	214.6	194.2	172.0	149.0	125.0
105°	264.2	259.8	252.7	243.8	232.3	217.2	199.5	181.8	160.5	138.3	115.3
107.5°	249.2	244.7	238.5	229.7	218.1	203.9	187.1	168.5	149.0	127.7	105.5
110°	234.1	230.5	223.4	215.5	203.9	189.8	174.7	156.9	137.4	117.9	96.6





TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	219.9	216.4	209.3	200.4	190.6	177.3	162.3	145.4	126.8	108.2	87.8
115°	205.7	201.3	195.1	187.1	177.3	164.9	150.7	135.7	117.0	99.3	80.7
117.5°	191.5	188.0	181.8	173.8	164.9	152.5	139.2	125.0	107.3	90.4	73.6
120°	177.3	174.7	168.5	161.4	152.5	141.0	128.6	114.4	98.4	82.5	66.5
122.5°	164.0	161.4	155.2	149.0	140.1	129.5	117.9	104.6	90.4	75.4	61.2
125°	151.6	148.1	142.8	136.6	128.6	118.8	107.3	94.9	81.6	68.3	55.0
127.5°	138.3	135.7	132.1	125.0	117.0	108.2	97.5	86.9	74.5	62.1	49.7
130°	127.7	124.1	119.7	114.4	107.3	98.4	88.7	78.0	67.4	55.9	43.4
132.5°	115.3	111.7	108.2	102.9	96.6	88.7	79.8	70.0	60.3	49.7	39.0
135°	103.7	101.1	97.5	92.2	86.0	79.8	70.9	62.1	53.2	43.4	34.6
137.5°	93.1	90.4	86.9	83.3	77.1	70.9	63.0	55.0	47.0	38.1	30.1
140°	82.5	80.7	77.1	73.6	68.3	62.1	55.0	47.9	40.8	32.8	25.7
142.5°	71.8	70.0	67.4	63.8	59.4	54.1	47.9	41.7	34.6	28.4	22.2
145°	62.1	61.2	58.5	55.0	51.4	46.1	40.8	35.5	29.3	23.9	17.7
147.5°	52.3	51.4	49.7	47.0	43.4	39.0	34.6	29.3	24.8	19.5	14.2
150°	43.4	42.6	41.7	38.1	36.4	31.9	28.4	23.9	20.4	15.1	11.5
152.5°	35.5	35.5	33.7	31.0	29.3	25.7	23.1	19.5	16.0	12.4	8.9
155°	28.4	27.5	26.6	24.8	23.1	20.4	17.7	15.1	12.4	8.9	6.2
157.5°	22.2	21.3	20.4	18.6	16.8	16.0	13.3	10.6	8.0	6.2	4.4
160°	16.0	15.1	14.2	13.3	12.4	10.6	8.9	7.1	5.3	3.5	2.7
162.5°	10.6	9.8	9.8	8.9	8.0	6.2	5.3	4.4	3.5	2.7	1.8
165°	5.3	5.3	4.4	4.4	3.5	2.7	2.7	2.7	1.8	1.8	0.9
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-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	330°	335°	340°	345°	350°	355°	360°
0°	840.6	840.6	840.6	840.6	840.6	840.6	840.6
2.5°	836.1	836.1	839.7	838.8	836.1	841.5	847.7
5°	833.5	833.5	836.1	836.1	833.5	838.8	844.1
7.5°	829.1	828.2	830.8	830.8	827.3	831.7	837.9
10°	821.1	820.2	822.8	822.8	819.3	823.7	829.1
12.5°	812.2	810.4	813.1	812.2	808.7	813.1	818.4
15°	800.7	799.8	801.6	799.8	796.2	800.7	806.0
17.5°	789.2	786.5	787.4	787.4	781.2	785.6	790.0
20°	774.1	770.5	771.4	770.5	766.1	768.8	774.1
22.5°	759.0	753.7	753.7	752.8	747.5	751.0	755.5
25°	740.4	734.2	734.2	733.3	727.1	729.7	734.2
27.5°	721.8	715.6	712.9	712.0	705.8	705.8	712.0
30°	702.3	693.4	691.6	689.0	682.8	682.8	688.1
32.5°	683.6	671.2	667.7	664.1	657.9	657.0	663.2
35°	658.8	649.1	642.9	639.3	632.2	630.4	635.8
37.5°	638.4	626.0	617.1	612.7	605.6	603.0	610.0
40°	616.3	603.0	591.4	588.8	578.1	574.6	580.8
42.5°	591.4	577.2	565.7	560.4	552.4	548.9	549.7
45°	566.6	551.5	539.1	532.0	524.0	517.8	521.4
47.5°	540.9	527.6	512.5	501.9	492.1	487.7	489.5
50°	515.2	499.2	485.0	473.5	462.0	456.6	460.2
52.5°	489.5	472.6	456.6	444.2	430.9	425.6	426.5
55°	464.6	446.9	428.3	415.0	402.6	394.6	392.8
57.5°	439.8	420.3	400.8	385.7	369.8	362.7	360.0
60°	413.2	392.8	372.4	354.7	337.8	329.8	326.3
62.5°	388.4	366.2	343.1	324.5	307.7	297.0	294.4
65°	364.4	338.7	315.7	294.4	275.8	264.2	260.7
67.5°	338.7	312.1	287.3	264.2	246.5	231.4	229.7
70°	314.8	286.4	258.9	235.0	215.5	200.4	193.3
72.5°	290.8	261.6	233.2	207.5	182.7	168.5	163.2
75°	267.8	237.6	207.5	180.9	153.4	136.6	131.2
77.5°	246.5	215.5	183.5	154.3	128.6	107.3	100.2
80°	226.1	194.2	160.5	130.3	102.9	79.8	71.8
82.5°	204.8	174.7	140.1	108.2	79.8	55.9	46.1
85°	186.2	156.1	121.5	89.6	61.2	35.5	24.8
87.5°	171.1	138.3	107.3	75.4	46.1	20.4	7.1
90°	156.1	124.1	93.1	62.1	34.6	11.5	0.9
92.5°	142.8	112.6	81.6	53.2	26.6	8.0	0.9
95°	130.3	101.1	71.8	44.3	21.3	5.3	0.9
97.5°	118.8	91.3	63.8	38.1	17.7	4.4	0.9
100°	109.1	82.5	56.7	33.7	15.1	3.5	0.9
102.5°	99.3	74.5	50.5	29.3	13.3	2.7	0.9
105°	91.3	67.4	45.2	26.6	11.5	2.7	0.9
107.5°	83.3	61.2	40.8	23.1	9.8	1.8	0.9
110°	75.4	55.9	36.4	20.4	8.9	1.8	0.9



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	330°	335°	340°	345°	350°	355°	360°
112.5°	69.2	50.5	32.8	18.6	7.1	1.8	0.9
115°	63.0	45.2	29.3	16.0	6.2	0.9	0.9
117.5°	56.7	40.8	25.7	14.2	5.3	0.9	0.9
120°	51.4	36.4	23.1	12.4	4.4	0.9	0.9
122.5°	46.1	32.8	20.4	10.6	3.5	0.9	0.9
125°	41.7	29.3	17.7	8.9	2.7	0.9	0.9
127.5°	37.2	25.7	16.0	8.0	2.7	0.9	0.9
130°	32.8	23.1	13.3	6.2	1.8	0.9	0.9
132.5°	29.3	19.5	11.5	5.3	1.8	0.9	0.9
135°	25.7	16.8	9.8	3.5	1.8	0.9	0.9
137.5°	22.2	14.2	8.0	2.7	0.9	0.9	0.9
140°	18.6	12.4	6.2	2.7	0.9	0.9	0.9
142.5°	16.0	9.8	4.4	1.8	0.9	0.9	0.9
145°	12.4	8.0	3.5	1.8	0.9	0.9	0.9
147.5°	9.8	6.2	2.7	1.8	0.9	0.9	0.9
150°	7.1	4.4	2.7	0.9	0.9	0.9	0.9
152.5°	5.3	3.5	1.8	0.9	0.9	0.9	0.9
155°	3.5	2.7	1.8	0.9	0.9	0.9	0.9
157.5°	2.7	1.8	0.9	0.9	0.9	0.9	0.9
160°	1.8	0.9	0.9	0.9	0.9	0.9	0.9
162.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9
165°	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)