

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-LD5-87HL-RM-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 (P33524)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SNLED-LD5-87HL-RM-UNV-L930-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
METALIC FINISH REFLECTOR
Light Source: -
Ballast/Driver: -

Summary

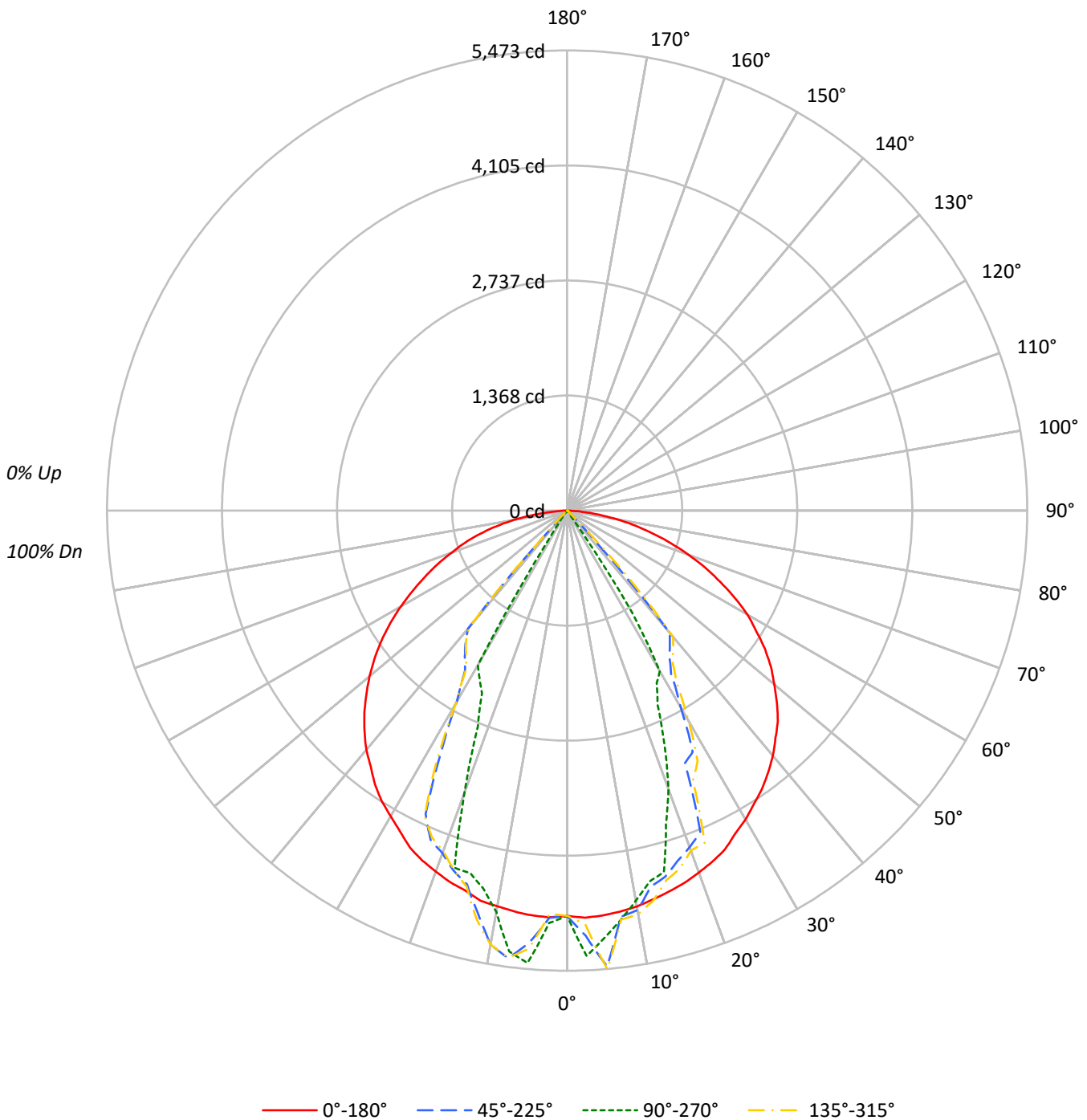
Lumens per Lamp: N/A
Luminaire Lumens: 6853.0 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 0.81 / 0.97
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

Input Watts (W): 79
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81				81
3	98	90	83	78	95	88	82	78	85	80	76	83	79	75	80	77	74	72				72
4	91	82	75	70	89	81	74	69	78	73	69	76	72	68	74	70	67	65				65
5	85	75	68	63	84	74	68	63	72	66	62	71	65	61	69	64	61	59				59
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54				54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49				49
8	71	60	53	48	70	59	52	48	58	52	47	57	51	47	56	51	47	45				45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42				42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39				39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	38946	38946	38946	38946
5°	39106	40057	39095	42419
10°	39012	36246	38989	37293
15°	38906	33832	38810	33920
20°	38951	26648	38841	26976
25°	39063	19285	38873	18198
30°	38885	16916	38474	16262
35°	39001	373	38428	452
40°	39134	81	38197	81
45°	39272	48	37797	36
50°	38972	37	37184	37
55°	38742	27	36363	27
60°	38011	28	35040	28
65°	36031	46	33464	31
70°	33424	50	31821	50
75°	29564	56	30050	56
80°	24015	64	25387	64
85°	14128	75	14429	75



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	483.5	7.1
10°-20°	1318.9	19.2
20°-30°	1678.3	24.5
30°-40°	1417.7	20.7
40°-50°	926.9	13.5
50°-60°	584.0	8.5
60°-70°	310.9	4.5
70°-80°	113.3	1.7
80°-90°	19.5	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3480.7	50.8
0°-40°	4898.4	71.5
0°-60°	6409.3	93.5
0°-90°	6853.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6853.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4820	4820	4820	4820	4820	
5°	4834	5100	4833	5401	4834	460
15°	4689	4451	4678	4462	4689	1326
25°	4445	2541	4423	2398	4445	2044
35°	4040	48	3981	58	4040	2527
45°	3544	6	3411	4	3544	2725
55°	2873	3	2696	3	2873	2560
65°	2011	4	1867	3	2011	1991
75°	1057	4	1075	4	1057	1122
85°	207	4	211	4	207	262
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4847.0	4849.9	4851.4	4854.3	4858.6	4860.0	4862.9	4860.0	4860.0	4860.0	4860.0
5°	4834.0	4839.8	4844.1	4849.9	4860.0	4861.5	4873.1	4874.5	4880.3	4891.9	4900.5
7.5°	4812.3	4818.1	4826.8	4841.2	4855.7	4871.6	4891.9	4913.6	4943.9	4972.9	5009.0
10°	4780.5	4787.7	4797.8	4810.9	4881.7	4891.9	4936.7	4998.9	5016.3	5107.4	5175.4
12.5°	4734.2	4758.8	4784.8	4796.4	4864.4	4971.4	5121.8	5091.5	5058.2	5356.2	5351.8
15°	4689.4	4722.6	4709.6	4803.6	4865.8	5052.4	4988.8	5124.7	5373.5	5312.8	5315.7
17.5°	4641.6	4648.9	4721.2	4799.3	4910.7	5006.1	5084.2	5270.8	5320.0	5324.4	5270.8
20°	4580.9	4615.6	4721.2	4792.1	4980.1	5024.9	5194.2	5289.6	5269.4	5220.2	5129.1
22.5°	4518.7	4624.3	4731.3	4831.1	4962.7	5082.8	5166.7	5211.5	5105.9	4912.1	4808.0
25°	4444.9	4507.1	4647.4	4793.5	4958.4	5027.8	5077.0	5004.7	4867.3	4693.7	4518.7
27.5°	4330.6	4430.4	4609.8	4774.7	4923.7	5007.6	4928.0	4754.5	4533.1	4418.9	4339.3
30°	4242.4	4372.6	4520.1	4679.2	4834.0	4883.2	4680.7	4482.5	4330.6	4216.4	4199.0
32.5°	4135.4	4320.5	4460.8	4612.7	4742.9	4677.8	4481.1	4225.1	4099.2	4055.8	4073.2
35°	4039.9	4180.2	4363.9	4512.9	4606.9	4460.8	4149.8	3990.7	3930.0	3954.6	3922.7
37.5°	3925.6	4110.8	4280.0	4408.8	4376.9	4157.1	3893.8	3792.6	3799.8	3779.6	3718.8
40°	3807.0	3983.5	4160.0	4281.5	4170.1	3834.5	3659.5	3637.8	3642.1	3577.0	3490.3
42.5°	3668.2	3828.7	4005.2	4115.1	3875.0	3613.2	3494.6	3497.5	3459.9	3368.8	3322.5
45°	3543.8	3691.3	3875.0	3885.1	3590.1	3371.7	3336.9	3299.3	3215.4	3185.1	3150.3
47.5°	3384.7	3548.1	3700.0	3645.0	3310.9	3174.9	3148.9	3066.5	3024.5	3001.4	2972.4
50°	3215.4	3380.3	3519.2	3363.0	3047.7	3015.8	2930.5	2865.4	2836.5	2811.9	2785.8
52.5°	3054.9	3190.8	3332.6	3063.6	2845.1	2814.8	2717.9	2680.3	2651.3	2623.8	2618.1
55°	2872.6	2992.7	3089.6	2778.6	2651.3	2580.5	2511.0	2485.0	2457.5	2444.5	2466.2
57.5°	2665.8	2801.8	2787.3	2498.0	2441.6	2338.9	2312.9	2295.5	2275.3	2283.9	2103.1
60°	2479.2	2583.3	2512.5	2292.6	2197.1	2127.7	2104.6	2093.0	2104.6	1928.1	1695.2
62.5°	2249.2	2366.4	2223.2	2052.5	1951.2	1918.0	1897.7	1913.6	1744.4	1550.6	1494.2
65°	2010.6	2137.8	1926.7	1795.0	1731.4	1702.5	1701.0	1566.5	1400.2	1324.9	1324.9
67.5°	1780.6	1912.2	1640.3	1530.3	1505.7	1508.6	1424.7	1220.8	1174.5	1123.9	977.8
70°	1536.1	1651.8	1355.3	1288.8	1274.3	1264.2	1060.2	1005.3	950.3	815.8	804.2
72.5°	1293.1	1349.5	1089.2	1073.3	1070.4	889.6	849.1	755.0	691.4	675.5	668.3
75°	1057.3	1040.0	860.6	875.1	737.7	674.0	609.0	554.0	545.3	539.5	134.5
77.5°	834.6	747.8	678.4	590.1	528.0	448.4	435.4	426.7	280.6	101.3	82.4
80°	607.5	484.6	451.3	383.3	326.9	313.9	321.1	98.4	78.1	65.1	56.4
82.5°	386.2	309.5	253.1	221.3	215.5	94.0	69.4	56.4	49.2	41.9	34.7
85°	206.8	137.4	127.3	107.0	63.6	43.4	36.2	27.5	23.1	18.8	17.4
87.5°	65.1	55.0	44.8	36.2	21.7	14.5	11.6	10.1	8.7	7.2	7.2
90°	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):

	11°	12°	13°	14°	15°	16°	17°	18°	19°	20°	25°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4857.1	4860.0	4858.6	4862.9	4862.9	4868.7	4873.1	4877.4	4886.1	4890.4	4923.7
5°	4919.3	4926.6	4948.3	4968.5	4993.1	5000.3	5042.3	5052.4	5101.6	5107.4	5269.4
7.5°	5058.2	5085.7	5137.8	5189.8	5241.9	5275.2	5333.0	5369.2	5408.2	5443.0	5571.7
10°	5226.0	5272.3	5322.9	5375.0	5405.4	5469.0	5503.7	5509.5	5499.4	5443.0	5234.7
12.5°	5390.9	5437.2	5415.5	5425.6	5461.8	5348.9	5364.9	5283.8	5340.3	5061.1	4854.3
15°	5367.7	5364.9	5311.3	5137.8	5166.7	4951.2	4864.4	4797.8	4851.4	4822.4	4790.6
17.5°	5298.3	5166.7	5074.1	4865.8	4777.6	4716.8	4718.3	4719.7	4693.7	4721.2	4640.2
20°	5004.7	4857.1	4719.7	4646.0	4619.9	4576.5	4598.2	4576.5	4578.0	4586.7	4462.3
22.5°	4614.1	4569.3	4489.8	4512.9	4504.2	4543.3	4514.3	4469.5	4484.0	4418.9	4324.9
25°	4456.5	4404.4	4401.5	4410.2	4397.2	4379.8	4353.8	4285.8	4281.5	4261.2	4217.8
27.5°	4297.4	4300.3	4308.9	4282.9	4236.6	4201.9	4162.9	4129.6	4142.6	4119.5	4060.2
30°	4187.4	4186.0	4133.9	4110.8	4025.4	4026.9	4016.8	3996.5	3983.5	3984.9	3947.3
32.5°	4031.2	3986.4	3927.1	3898.2	3890.9	3864.9	3844.6	3849.0	3859.1	3822.9	3862.0
35°	3870.7	3778.1	3769.4	3744.8	3721.7	3704.3	3711.6	3682.6	3681.2	3676.9	3358.6
37.5°	3655.2	3610.3	3606.0	3579.9	3564.0	3559.7	3532.2	3536.5	3549.6	3572.7	2864.0
40°	3477.2	3436.7	3426.6	3425.2	3390.5	3387.6	3394.8	3422.3	3441.1	3296.4	2729.4
42.5°	3286.3	3289.2	3257.4	3237.1	3241.5	3254.5	3289.2	3193.7	2767.0	2636.9	2495.1
45°	3122.9	3108.4	3091.0	3085.3	3122.9	3096.8	2715.0	2505.2	2454.6	2448.8	2051.1
47.5°	2952.2	2947.8	2940.6	2945.0	2730.9	2434.4	2347.6	2320.1	2328.8	2323.0	1761.8
50°	2780.1	2785.8	2785.8	2432.9	2233.3	2184.1	2191.4	2215.9	2062.6	1925.2	1641.7
52.5°	2631.1	2586.2	2215.9	2088.7	2043.8	2065.5	2013.4	1821.1	1682.2	1601.2	1518.8
55°	2354.8	2025.0	1942.6	1922.3	1938.2	1745.9	1627.2	1502.9	1466.7	1458.0	1410.3
57.5°	1852.9	1786.4	1793.6	1712.6	1528.9	1420.4	1372.7	1355.3	1339.4	1327.8	115.7
60°	1638.8	1657.6	1517.3	1343.7	1270.0	1255.5	1243.9	1228.0	1225.1	1204.9	73.8
62.5°	1500.0	1319.2	1197.7	1154.3	1136.9	1132.6	1110.9	1103.6	937.3	128.7	55.0
65°	1131.1	1057.3	1034.2	1024.1	1005.3	1005.3	834.6	131.6	107.0	92.6	49.2
67.5°	922.8	917.0	905.5	892.5	607.5	127.3	111.4	96.9	83.9	73.8	43.4
70°	781.1	778.2	708.8	130.2	108.5	95.5	83.9	75.2	69.4	62.2	39.1
72.5°	640.8	130.2	109.9	95.5	82.4	75.2	68.0	60.8	55.0	50.6	31.8
75°	99.8	88.2	78.1	70.9	65.1	57.9	52.1	47.7	46.3	40.5	21.7
77.5°	72.3	62.2	56.4	50.6	44.8	40.5	34.7	30.4	27.5	23.1	15.9
80°	50.6	44.8	40.5	33.3	28.9	24.6	21.7	18.8	17.4	14.5	7.2
82.5°	28.9	24.6	21.7	17.4	15.9	13.0	11.6	10.1	10.1	7.2	7.2
85°	13.0	13.0	10.1	8.7	7.2	7.2	7.2	5.8	5.8	4.3	4.3
87.5°	5.8	5.8	5.8	5.8	5.8	4.3	4.3	4.3	4.3	4.3	2.9
90°	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):

	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4970.0	4988.8	5024.9	5062.5	5020.6	5171.0	5159.5	5210.1	5237.6	5250.6	5281.0
5°	5412.6	5496.5	5524.0	5441.5	5393.8	5344.6	5233.2	5149.3	5159.5	5132.0	5032.2
7.5°	5403.9	5224.5	4983.0	4873.1	4864.4	4851.4	4886.1	4906.3	4909.2	4907.8	4904.9
10°	4946.8	4854.3	4838.3	4823.9	4829.7	4776.1	4751.6	4682.1	4719.7	4699.5	4706.7
12.5°	4808.0	4786.3	4700.9	4582.3	4653.2	4599.7	4569.3	4589.6	4566.4	4544.7	4537.5
15°	4725.5	4585.2	4537.5	4508.6	4488.3	4476.7	4486.9	4463.7	4456.5	4452.1	4462.3
17.5°	4554.8	4498.4	4446.4	4369.7	4371.1	4366.8	4395.7	4439.1	4442.0	4219.3	4018.2
20°	4420.3	4374.0	4307.5	4259.8	4324.9	4209.1	3762.2	3549.6	3516.3	3516.3	3522.1
22.5°	4313.3	4210.6	4214.9	4139.7	3530.8	3406.4	3409.3	3422.3	3363.0	3160.5	3138.8
25°	4167.2	4151.3	3834.5	3313.8	3318.1	3221.2	3072.2	2862.5	2635.4	2635.4	2597.8
27.5°	4057.3	3720.2	3257.4	3235.7	2910.2	2704.8	2577.6	2385.2	2359.1	2334.6	2337.4
30°	3963.2	3147.5	3159.0	2704.8	2464.7	2294.1	2283.9	2252.1	2236.2	2231.9	2215.9
32.5°	3133.0	3065.0	2644.1	2302.7	2208.7	2181.2	2168.2	2132.1	2130.6	2103.1	1912.2
35°	2937.7	2690.4	2213.1	2120.5	2093.0	2067.0	2045.3	1372.7	162.0	65.1	56.4
37.5°	2715.0	2247.8	2046.7	2004.8	1978.7	1462.4	146.1	50.6	36.2	26.0	23.1
40°	2301.3	2007.7	1944.0	1897.7	782.5	50.6	31.8	24.6	14.5	13.0	11.6
42.5°	1941.1	1891.9	1824.0	555.4	57.9	24.6	15.9	11.6	10.1	10.1	8.7
45°	1816.7	1773.3	734.8	55.0	36.2	11.6	10.1	10.1	8.7	5.8	5.8
47.5°	1701.0	1497.1	66.5	34.7	23.1	10.1	8.7	5.8	5.8	5.8	4.3
50°	1578.1	82.4	46.3	26.0	14.5	5.8	5.8	5.8	5.8	4.3	4.3
52.5°	295.1	57.9	37.6	23.1	7.2	5.8	5.8	5.8	4.3	4.3	4.3
55°	69.4	46.3	34.7	20.3	5.8	5.8	5.8	4.3	4.3	4.3	2.9
57.5°	52.1	34.7	27.5	18.8	5.8	4.3	4.3	4.3	4.3	4.3	2.9
60°	43.4	24.6	21.7	17.4	4.3	4.3	4.3	4.3	4.3	4.3	2.9
62.5°	30.4	20.3	15.9	13.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3
65°	24.6	15.9	13.0	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
67.5°	21.7	13.0	8.7	2.9	4.3	4.3	4.3	4.3	4.3	4.3	4.3
70°	17.4	4.3	4.3	2.9	4.3	4.3	4.3	4.3	4.3	4.3	4.3
72.5°	14.5	4.3	2.9	2.9	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75°	14.5	7.2	2.9	2.9	4.3	4.3	5.8	5.8	4.3	4.3	4.3
77.5°	10.1	7.2	2.9	2.9	4.3	4.3	5.8	5.8	4.3	4.3	4.3
80°	5.8	7.2	2.9	4.3	4.3	8.7	10.1	5.8	4.3	4.3	4.3
82.5°	5.8	7.2	8.7	8.7	4.3	7.2	8.7	7.2	5.8	4.3	4.3
85°	5.8	4.3	5.8	7.2	4.3	7.2	7.2	5.8	5.8	4.3	4.3
87.5°	2.9	4.3	4.3	5.8	5.8	5.8	7.2	5.8	5.8	5.8	4.3
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	5295.4	5301.2	5210.1	5178.3	5205.7	5200.0	5175.4	5084.2	5074.1	5013.4	4925.1
5°	5061.1	5100.2	5052.4	5134.9	5095.8	5134.9	5253.5	5308.4	5398.1	5453.1	5473.3
7.5°	4897.7	4906.3	4906.3	4913.6	4920.8	4922.2	4913.6	4907.8	4883.2	4852.8	4907.8
10°	4699.5	4709.6	4727.0	4724.1	4722.6	4753.0	4760.2	4822.4	4819.5	4831.1	4873.1
12.5°	4596.8	4518.7	4589.6	4570.8	4596.8	4556.3	4631.5	4618.5	4622.8	4657.5	4747.2
15°	4426.1	4450.7	4468.1	4468.1	4478.2	4469.5	4460.8	4520.1	4556.3	4557.7	4552.0
17.5°	4097.8	3911.2	4102.1	4052.9	4444.9	4455.0	4421.8	4394.3	4394.3	4416.0	4462.3
20°	3517.7	3522.1	3523.5	3542.3	3565.5	3564.0	3565.5	4135.4	4405.9	4343.7	4301.7
22.5°	3083.8	3030.3	3130.1	3122.9	3247.3	3384.7	3516.3	3503.3	3512.0	3914.1	4275.7
25°	2472.0	2541.4	2485.0	2509.6	2649.9	2813.3	2914.6	3179.3	3467.1	3446.9	3540.9
27.5°	2327.3	2308.5	2334.6	2334.6	2353.4	2375.1	2431.5	2580.5	2836.5	3105.5	3360.1
30°	2189.9	2205.8	2208.7	2234.8	2249.2	2263.7	2272.4	2328.8	2386.6	2573.2	2887.1
32.5°	1644.6	1442.1	1897.7	2020.7	2124.8	2149.4	2166.8	2189.9	2231.9	2259.3	2417.0
35°	47.7	47.7	50.6	57.9	73.8	497.6	1894.8	2088.7	2116.1	2150.9	2179.8
37.5°	23.1	17.4	20.3	21.7	26.0	36.2	52.1	162.0	1803.7	2039.5	2071.3
40°	10.1	10.1	10.1	10.1	11.6	14.5	21.7	36.2	55.0	1450.8	1957.0
42.5°	8.7	8.7	8.7	8.7	8.7	8.7	10.1	13.0	26.0	62.2	1027.0
45°	5.8	5.8	4.3	5.8	5.8	7.2	8.7	8.7	11.6	39.1	70.9
47.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	7.2	8.7	26.0	37.6
50°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	20.3	26.0
52.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	8.7	23.1
55°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.3	4.3	5.8	20.3
57.5°	2.9	2.9	2.9	2.9	2.9	4.3	2.9	2.9	4.3	4.3	18.8
60°	2.9	2.9	2.9	2.9	2.9	4.3	4.3	4.3	4.3	4.3	17.4
62.5°	4.3	4.3	2.9	4.3	2.9	2.9	4.3	4.3	4.3	4.3	11.6
65°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.9	4.3
67.5°	4.3	4.3	4.3	4.3	2.9	4.3	2.9	4.3	4.3	2.9	2.9
70°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.9	2.9	2.9	2.9
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.9	2.9	2.9	2.9
75°	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	2.9	2.9	2.9
77.5°	4.3	4.3	4.3	4.3	4.3	4.3	7.2	8.7	7.2	7.2	2.9
80°	4.3	4.3	4.3	4.3	4.3	4.3	7.2	7.2	7.2	7.2	10.1
82.5°	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	5.8	5.8	7.2
85°	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	5.8	4.3	5.8
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	4.3	4.3	4.3
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	140°	145°	150°	155°	160°	161°	162°	163°	164°	165°	166°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4932.4	4883.2	4867.3	4834.0	4831.1	4834.0	4826.8	4816.6	4822.4	4812.3	4803.6
5°	5484.9	5353.3	5267.9	5153.7	4996.0	4961.3	4952.6	4903.4	4886.1	4880.3	4857.1
7.5°	5038.0	5278.1	5422.7	5471.9	5286.7	5243.3	5192.7	5152.2	5113.2	5039.4	4994.6
10°	4839.8	4851.4	4990.2	5152.2	5415.5	5451.6	5479.1	5390.9	5366.3	5178.3	5137.8
12.5°	4793.5	4795.0	4810.9	4909.2	5116.1	5139.2	5236.1	5288.2	5351.8	5388.0	5359.1
15°	4582.3	4699.5	4786.3	4795.0	4813.8	4854.3	4883.2	5064.0	5140.7	5346.0	5334.5
17.5°	4484.0	4521.6	4647.4	4750.1	4732.8	4718.3	4741.4	4766.0	4839.8	5045.2	5042.3
20°	4320.5	4440.6	4508.6	4615.6	4712.5	4716.8	4690.8	4676.3	4647.4	4680.7	4711.1
22.5°	4251.1	4269.9	4397.2	4472.4	4582.3	4621.4	4627.2	4628.6	4612.7	4595.3	4586.7
25°	4243.9	4184.6	4249.6	4343.7	4424.7	4466.6	4514.3	4530.3	4524.5	4524.5	4515.8
27.5°	3472.9	4165.8	4131.0	4193.2	4291.6	4320.5	4345.1	4394.3	4424.7	4446.4	4456.5
30°	3308.0	3432.4	4038.5	4047.1	4146.9	4144.1	4171.5	4212.0	4251.1	4301.7	4314.7
32.5°	2926.2	3231.3	3697.1	3901.1	4005.2	4015.3	4029.8	4041.4	4077.5	4133.9	4183.1
35°	2344.7	2943.5	3167.7	3831.6	3850.4	3870.7	3879.4	3906.8	3918.4	3941.6	3984.9
37.5°	2121.9	2432.9	3039.0	3313.8	3672.5	3689.9	3736.2	3747.7	3766.5	3785.3	3818.6
40°	1993.2	2078.5	2529.8	2959.4	3529.3	3540.9	3556.8	3585.7	3587.2	3608.9	3639.2
42.5°	1890.5	1945.5	2077.1	2826.3	3428.1	3426.6	3389.0	3407.8	3416.5	3439.6	3481.6
45°	1510.1	1825.4	1909.3	2308.5	2729.4	2926.2	3303.7	3241.5	3240.0	3248.7	3293.5
47.5°	76.7	1716.9	1776.2	1905.0	2577.6	2584.8	2634.0	3047.7	3111.3	3091.0	3095.4
50°	52.1	118.6	1654.7	1714.0	2221.7	2401.1	2437.3	2456.1	2694.7	2960.9	2917.5
52.5°	40.5	68.0	1014.0	1591.1	1805.2	1936.8	2169.7	2302.7	2317.2	2424.2	2787.3
55°	36.2	52.1	109.9	1468.1	1534.7	1563.6	1699.6	1932.4	2120.5	2176.9	2181.2
57.5°	31.8	47.7	75.2	663.9	1395.8	1401.6	1424.7	1505.7	1675.0	1829.7	2004.8
60°	28.9	41.9	59.3	114.3	1268.5	1283.0	1287.3	1309.0	1329.3	1434.9	1635.9
62.5°	17.4	33.3	52.1	82.4	1003.8	1152.8	1151.4	1165.8	1184.6	1196.2	1236.7
65°	14.5	26.0	44.8	69.4	122.9	153.3	931.5	1035.7	1047.2	1063.1	1070.4
67.5°	13.0	23.1	33.3	55.0	92.6	105.6	121.5	150.4	821.6	925.7	940.2
70°	11.6	15.9	27.5	46.3	75.2	81.0	91.1	104.1	122.9	151.9	743.5
72.5°	7.2	11.6	18.8	33.3	57.9	65.1	70.9	79.6	88.2	105.6	121.5
75°	2.9	8.7	15.9	24.6	44.8	49.2	53.5	59.3	66.5	78.1	86.8
77.5°	2.9	7.2	13.0	17.4	28.9	33.3	39.1	43.4	49.2	55.0	63.6
80°	10.1	5.8	8.7	13.0	20.3	21.7	24.6	27.5	31.8	36.2	41.9
82.5°	7.2	8.7	10.1	8.7	10.1	13.0	14.5	17.4	18.8	21.7	23.1
85°	5.8	5.8	7.2	7.2	7.2	7.2	7.2	7.2	8.7	10.1	13.0
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	167°	168°	169°	170°	171°	172°	173°	174°	175°	176°	177°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4803.6	4800.7	4792.1	4792.1	4790.6	4796.4	4800.7	4805.1	4803.6	4812.3	4803.6
5°	4839.8	4832.6	4819.5	4808.0	4803.6	4806.5	4802.2	4806.5	4800.7	4808.0	4795.0
7.5°	4939.6	4915.0	4864.4	4844.1	4818.1	4816.6	4803.6	4800.7	4792.1	4792.1	4776.1
10°	5116.1	4997.5	4983.0	4922.2	4900.5	4795.0	4818.1	4779.0	4774.7	4755.9	4748.7
12.5°	5260.7	5168.1	5140.7	5087.1	5026.4	4812.3	4860.0	4776.1	4771.8	4734.2	4695.1
15°	5263.6	5317.1	5241.9	5094.4	5081.3	4933.8	4836.9	4808.0	4770.4	4657.5	4676.3
17.5°	5094.4	5217.3	5253.5	5221.7	5129.1	5029.3	4893.3	4835.5	4722.6	4672.0	4637.3
20°	4819.5	4943.9	5098.7	5108.8	5166.7	5095.8	4917.9	4823.9	4687.9	4599.7	4570.8
22.5°	4601.1	4692.3	4870.2	4952.6	5023.5	5048.1	4935.3	4796.4	4627.2	4541.8	4524.5
25°	4485.4	4505.7	4559.2	4656.1	4812.3	4925.1	4941.0	4793.5	4705.3	4518.7	4420.3
27.5°	4443.5	4426.1	4404.4	4453.6	4570.8	4708.2	4799.3	4823.9	4604.0	4426.1	4327.8
30°	4336.4	4346.6	4313.3	4295.9	4372.6	4514.3	4676.3	4716.8	4547.6	4363.9	4251.1
32.5°	4204.8	4222.2	4227.9	4197.6	4181.7	4280.0	4455.0	4552.0	4543.3	4275.7	4149.8
35°	4039.9	4089.1	4102.1	4103.6	4077.5	4061.6	4162.9	4363.9	4440.6	4235.2	4052.9
37.5°	3866.3	3880.8	3951.7	3970.5	3970.5	3922.7	3998.0	4158.5	4265.6	4144.1	3934.3
40°	3649.4	3695.7	3762.2	3795.5	3828.7	3833.1	3791.1	3903.9	4080.4	4050.0	3822.9
42.5°	3491.7	3522.1	3562.6	3607.4	3675.4	3692.8	3649.4	3669.6	3853.3	3932.9	3678.3
45°	3308.0	3348.5	3360.1	3409.3	3480.1	3530.8	3529.3	3487.4	3634.9	3733.3	3572.7
47.5°	3120.0	3159.0	3179.3	3203.9	3255.9	3321.0	3357.2	3338.4	3367.3	3559.7	3432.4
50°	2926.2	2947.8	2988.3	3015.8	3050.5	3088.2	3174.9	3192.3	3151.8	3305.1	3277.6
52.5°	2742.5	2749.7	2777.2	2804.6	2850.9	2878.4	2947.8	2999.9	2997.0	3041.9	3105.5
55°	2599.3	2567.4	2573.2	2594.9	2625.3	2667.2	2706.3	2787.3	2814.8	2823.5	2924.7
57.5°	2030.8	2357.7	2386.6	2385.2	2421.3	2440.1	2476.3	2529.8	2628.2	2606.5	2719.3
60°	1845.7	1881.8	2155.2	2187.0	2200.0	2217.4	2260.8	2310.0	2382.3	2428.6	2477.8
62.5°	1407.4	1627.2	1709.7	1951.2	1988.9	1999.0	2027.9	2051.1	2126.3	2231.9	2211.6
65°	1089.2	1183.2	1434.9	1533.2	1738.6	1764.7	1805.2	1829.7	1851.4	1972.9	1978.7
67.5°	941.6	956.1	1024.1	1213.6	1343.7	1544.8	1569.4	1591.1	1624.4	1711.1	1764.7
70°	804.2	821.6	840.4	856.3	1025.5	1158.6	1345.2	1352.4	1374.1	1432.0	1553.5
72.5°	151.9	687.1	698.6	708.8	727.6	815.8	993.7	1138.3	1147.0	1174.5	1285.9
75°	102.7	120.1	164.9	567.0	585.8	591.6	622.0	802.8	935.8	941.6	990.8
77.5°	73.8	82.4	99.8	118.6	302.3	454.2	461.4	494.7	632.1	731.9	740.6
80°	50.6	56.4	66.5	75.2	92.6	121.5	335.6	345.7	363.1	500.5	526.5
82.5°	28.9	33.3	39.1	47.7	55.0	69.4	89.7	115.7	235.8	251.7	334.1
85°	14.5	15.9	18.8	23.1	27.5	33.3	44.8	55.0	75.2	136.0	140.3
87.5°	7.2	7.2	7.2	7.2	11.6	13.0	15.9	20.3	26.0	39.1	50.6
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	178°	179°	180°	181°	182°	183°	184°	185°	186°	187°	188°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4805.1	4825.3	4842.7	4847.0	4847.0	4849.9	4854.3	4857.1	4860.0	4862.9	4860.0
5°	4796.4	4818.1	4832.6	4836.9	4836.9	4845.6	4852.8	4861.5	4865.8	4865.8	4862.9
7.5°	4774.7	4790.6	4809.4	4821.0	4822.4	4836.9	4849.9	4848.5	4854.3	4857.1	4864.4
10°	4745.8	4745.8	4777.6	4786.3	4793.5	4809.4	4813.8	4822.4	4842.7	4845.6	4864.4
12.5°	4731.3	4716.8	4754.5	4758.8	4783.4	4763.1	4789.2	4797.8	4777.6	4805.1	4768.9
15°	4666.2	4683.6	4677.8	4690.8	4734.2	4711.1	4781.9	4758.8	4810.9	4748.7	4858.6
17.5°	4612.7	4609.8	4633.0	4644.5	4653.2	4702.4	4721.2	4747.2	4767.5	4750.1	4793.5
20°	4573.6	4550.5	4567.9	4580.9	4611.3	4648.9	4660.4	4621.4	4689.4	4805.1	4832.6
22.5°	4499.9	4484.0	4504.2	4504.2	4550.5	4544.7	4588.1	4563.5	4627.2	4761.7	4902.0
25°	4400.1	4401.5	4423.2	4449.3	4457.9	4523.0	4546.2	4578.0	4657.5	4818.1	4903.4
27.5°	4298.8	4290.1	4303.2	4356.7	4401.5	4449.3	4456.5	4565.0	4673.5	4783.4	4858.6
30°	4197.6	4188.9	4197.6	4236.6	4290.1	4322.0	4401.5	4546.2	4647.4	4722.6	4793.5
32.5°	4089.1	4080.4	4100.7	4129.6	4223.6	4227.9	4385.6	4521.6	4601.1	4656.1	4643.1
35°	3973.4	3961.8	3980.6	4025.4	4112.2	4144.1	4308.9	4410.2	4499.9	4525.9	4465.2
37.5°	3834.5	3814.3	3837.4	3899.6	3990.7	4083.3	4220.7	4337.9	4385.6	4316.2	4243.9
40°	3689.9	3675.4	3715.9	3747.7	3854.8	3983.5	4141.2	4223.6	4193.2	4113.7	4034.1
42.5°	3561.1	3530.8	3566.9	3627.7	3749.2	3895.3	4022.6	4068.8	3996.5	3879.4	3786.8
45°	3403.5	3367.3	3410.7	3491.7	3621.9	3788.2	3888.0	3872.1	3749.2	3647.9	3520.6
47.5°	3238.6	3195.2	3238.6	3335.5	3481.6	3658.0	3730.4	3658.0	3503.3	3376.0	3273.3
50°	3076.6	3026.0	3067.9	3214.0	3357.2	3493.2	3491.7	3351.4	3258.8	3120.0	3030.3
52.5°	2916.0	2843.7	2885.7	3044.8	3188.0	3342.7	3228.5	3098.3	2986.9	2865.4	2836.5
55°	2717.9	2639.8	2696.2	2927.6	3037.5	3128.7	2946.4	2832.1	2722.2	2661.5	2625.3
57.5°	2529.8	2444.5	2493.7	2767.0	2848.0	2871.2	2703.4	2541.4	2476.3	2456.1	2404.0
60°	2336.0	2239.1	2285.4	2600.7	2657.1	2563.1	2398.2	2272.4	2259.3	2218.8	2178.3
62.5°	2150.9	2043.8	2072.8	2393.9	2419.9	2249.2	2097.3	2064.1	2032.2	1991.7	1970.1
65°	1938.2	1826.9	1867.4	2174.0	2149.4	1929.6	1844.2	1837.0	1795.0	1761.8	1793.6
67.5°	1743.0	1611.3	1667.7	1933.9	1822.5	1643.2	1608.4	1591.1	1557.8	1576.6	1242.5
70°	1528.9	1385.7	1462.4	1675.0	1510.1	1391.5	1378.5	1352.4	1353.9	1076.2	906.9
72.5°	1290.2	1165.8	1277.2	1391.5	1194.8	1160.0	1141.2	1138.3	918.5	746.4	704.4
75°	1080.5	954.7	1074.7	1118.1	951.8	928.6	927.2	766.6	603.2	575.7	562.7
77.5°	843.3	746.4	860.6	795.5	730.5	704.4	632.1	474.4	454.2	435.4	163.4
80°	568.5	575.7	642.2	548.2	520.7	444.1	350.0	335.6	289.3	115.7	91.1
82.5°	345.7	433.9	409.3	342.8	335.6	241.6	221.3	112.8	83.9	66.5	57.9
85°	179.4	219.9	211.2	186.6	138.9	124.4	69.4	53.5	43.4	33.3	27.5
87.5°	60.8	81.0	78.1	62.2	47.7	37.6	24.6	20.3	14.5	11.6	10.1
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	189°	190°	191°	192°	193°	194°	195°	196°	197°	198°	199°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4857.1	4857.1	4854.3	4857.1	4858.6	4855.7	4855.7	4858.6	4860.0	4861.5	4868.7
5°	4864.4	4867.3	4871.6	4880.3	4881.7	4899.1	4906.3	4910.7	4915.0	4916.5	4906.3
7.5°	4880.3	4890.4	4899.1	4897.7	4887.5	4860.0	4851.4	4844.1	4857.1	4890.4	4929.5
10°	4894.8	4848.5	4761.7	4880.3	4844.1	4877.4	4975.8	4997.5	5064.0	5158.0	5185.5
12.5°	4795.0	4922.2	4949.7	4816.6	5062.5	4971.4	5079.9	5175.4	5202.8	5298.3	5240.5
15°	4902.0	4964.2	5006.1	5139.2	5124.7	5202.8	5233.2	5214.4	5218.8	5243.3	5308.4
17.5°	4900.5	5024.9	5052.4	5142.1	5202.8	5204.3	5195.6	5186.9	5210.1	5228.9	5189.8
20°	4984.4	5024.9	5078.5	5114.6	5126.2	5140.7	5168.1	5146.4	5103.0	5061.1	5043.7
22.5°	4942.5	5033.6	5079.9	5085.7	5078.5	5033.6	4993.1	4932.4	4912.1	4890.4	4897.7
25°	4951.2	4993.1	4987.3	4964.2	4933.8	4849.9	4829.7	4803.6	4764.6	4670.6	4585.2
27.5°	4889.0	4867.3	4841.2	4784.8	4729.9	4685.0	4634.4	4550.5	4481.1	4379.8	4342.2
30°	4784.8	4698.0	4634.4	4601.1	4547.6	4472.4	4395.7	4293.0	4204.8	4184.6	4165.8
32.5°	4585.2	4499.9	4447.8	4366.8	4275.7	4186.0	4097.8	4057.3	4038.5	4041.4	4024.0
35°	4381.3	4306.1	4227.9	4106.4	4038.5	3948.8	3917.0	3908.3	3890.9	3872.1	3851.9
37.5°	4164.3	4076.1	3958.9	3886.6	3818.6	3782.4	3766.5	3753.5	3723.1	3689.9	3666.7
40°	3954.6	3795.5	3730.4	3659.5	3639.2	3623.3	3600.2	3568.4	3526.4	3520.6	3510.5
42.5°	3674.0	3559.7	3503.3	3488.8	3464.2	3436.7	3416.5	3381.8	3364.4	3376.0	3384.7
45°	3407.8	3350.0	3331.2	3313.8	3267.5	3228.5	3215.4	3203.9	3218.3	3282.0	3130.1
47.5°	3192.3	3169.2	3146.0	3117.1	3073.7	3044.8	3057.8	3069.3	3082.4	2615.2	2386.6
50°	3005.7	2973.9	2937.7	2905.9	2879.9	2877.0	2945.0	2741.0	2295.5	2283.9	2052.5
52.5°	2801.8	2754.0	2732.3	2713.5	2725.1	2768.5	2291.2	2126.3	2039.5	1771.9	1653.3
55°	2581.9	2540.0	2540.0	2557.3	2495.1	2022.1	1997.5	1727.1	1563.6	1517.3	1498.5
57.5°	2362.0	2357.7	2382.3	2178.3	1835.5	1760.3	1479.7	1420.4	1394.4	1388.6	1358.2
60°	2161.0	2201.5	1842.8	1695.2	1473.9	1329.3	1288.8	1281.5	1254.1	1243.9	1216.5
62.5°	2000.4	1659.1	1544.8	1261.3	1187.5	1168.7	1147.0	1136.9	1112.3	982.1	287.8
65°	1445.0	1365.4	1108.0	1060.2	1054.5	1027.0	1018.3	915.6	215.5	144.6	122.9
67.5°	1090.6	967.7	934.4	925.7	898.2	843.3	250.2	143.2	122.9	107.0	94.0
70°	837.5	815.8	791.2	771.0	227.1	141.8	122.9	104.1	89.7	79.6	72.3
72.5°	685.6	671.1	390.5	149.0	121.5	102.7	91.1	79.6	69.4	63.6	57.9
75°	536.6	149.0	122.9	102.7	88.2	75.2	66.5	59.3	53.5	49.2	44.8
77.5°	121.5	98.4	83.9	70.9	63.6	56.4	50.6	43.4	39.1	34.7	28.9
80°	75.2	65.1	55.0	50.6	43.4	36.2	31.8	28.9	23.1	21.7	18.8
82.5°	49.2	39.1	34.7	28.9	23.1	21.7	18.8	14.5	13.0	11.6	10.1
85°	21.7	18.8	15.9	13.0	10.1	8.7	7.2	5.8	5.8	5.8	5.8
87.5°	7.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.9	2.9
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	200°	205°	210°	215°	220°	225°	230°	235°	240°	245°	250°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4871.6	4897.7	4922.2	4915.0	4889.0	4848.5	4836.9	4821.0	4832.6	4857.1	4867.3
5°	4906.3	4891.9	4943.9	5020.6	5145.0	5156.6	5243.3	5263.6	5333.0	5376.4	5375.0
7.5°	4955.5	5160.9	5246.2	5338.8	5380.8	5370.6	5383.7	5373.5	5357.6	5350.4	5341.7
10°	5205.7	5362.0	5393.8	5393.8	5328.7	5240.5	5202.8	5137.8	5007.6	5010.5	4988.8
12.5°	5351.8	5406.8	5331.6	5267.9	5006.1	4904.9	4795.0	4742.9	4712.5	4666.2	4683.6
15°	5275.2	5197.1	5152.2	4946.8	4786.3	4604.0	4606.9	4575.1	4541.8	4544.7	4523.0
17.5°	5162.3	5100.2	4781.9	4640.2	4562.1	4491.2	4478.2	4436.2	4414.5	4407.3	4405.9
20°	5007.6	4783.4	4546.2	4511.5	4417.4	4336.4	4323.4	4336.4	4403.0	4284.4	3882.2
22.5°	4826.8	4504.2	4434.8	4336.4	4272.8	4241.0	4320.5	3958.9	3412.2	3478.7	3407.8
25°	4520.1	4379.8	4261.2	4186.0	4178.8	3983.5	3319.6	3250.2	2898.7	2710.6	2499.5
27.5°	4295.9	4235.2	4110.8	4097.8	4003.7	3257.4	2911.7	2529.8	2389.5	2367.8	2321.5
30°	4160.0	4073.2	3998.0	3669.6	3195.2	2622.4	2336.0	2282.5	2257.9	2231.9	2191.4
32.5°	3996.5	3914.1	3950.2	3085.3	2547.2	2257.9	2200.0	2161.0	2116.1	2098.8	1952.7
35°	3830.2	3792.6	3086.7	2593.5	2189.9	2120.5	2077.1	2036.6	1620.0	392.0	133.1
37.5°	3652.3	3643.6	2774.3	2152.3	2051.1	1986.0	1863.0	384.8	91.1	62.2	46.3
40°	3513.4	2775.7	2192.8	2017.8	1935.3	1832.6	257.5	63.6	40.5	24.6	15.9
42.5°	3420.8	2496.6	1962.8	1893.4	1714.0	189.5	65.1	27.5	15.9	13.0	10.1
45°	2636.9	1971.5	1834.1	1761.8	217.0	65.1	37.6	13.0	10.1	8.7	5.8
47.5°	2432.9	1790.7	1709.7	384.8	72.3	34.7	26.0	8.7	5.8	5.8	5.8
50°	1842.8	1654.7	1361.1	94.0	46.3	24.6	18.8	5.8	5.8	5.8	4.3
52.5°	1615.7	1527.4	146.1	62.2	36.2	18.8	11.6	4.3	4.3	4.3	4.3
55°	1476.8	969.1	86.8	47.7	30.4	17.4	7.2	4.3	4.3	4.3	2.9
57.5°	1351.0	130.2	63.6	40.5	27.5	15.9	4.3	4.3	4.3	4.3	2.9
60°	1145.6	94.0	52.1	36.2	26.0	14.5	4.3	4.3	4.3	4.3	4.3
62.5°	149.0	73.8	44.8	31.8	18.8	11.6	2.9	4.3	4.3	4.3	4.3
65°	108.5	57.9	40.5	21.7	11.6	4.3	2.9	4.3	4.3	4.3	4.3
67.5°	83.9	47.7	30.4	18.8	10.1	2.9	2.9	4.3	4.3	4.3	4.3
70°	66.5	40.5	24.6	15.9	8.7	2.9	2.9	4.3	4.3	4.3	4.3
72.5°	52.1	28.9	17.4	8.7	5.8	2.9	2.9	4.3	4.3	4.3	4.3
75°	39.1	23.1	13.0	7.2	2.9	2.9	2.9	4.3	4.3	4.3	4.3
77.5°	26.0	14.5	10.1	5.8	5.8	5.8	7.2	7.2	4.3	4.3	4.3
80°	17.4	10.1	7.2	7.2	7.2	5.8	7.2	7.2	4.3	7.2	4.3
82.5°	8.7	7.2	7.2	5.8	5.8	4.3	5.8	5.8	5.8	5.8	4.3
85°	5.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	4.3
87.5°	2.9	2.9	2.9	2.9	4.3	4.3	4.3	4.3	5.8	5.8	4.3
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	255°	260°	265°	270°	275°	280°	285°	290°	295°	300°	305°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4854.3	4858.6	4847.0	4909.2	4877.4	4880.3	4893.3	4860.0	4867.3	4844.1	4828.2
5°	5380.8	5389.4	5398.1	5401.0	5406.8	5414.0	5405.4	5401.0	5392.3	5363.4	5333.0
7.5°	5298.3	5288.2	5283.8	5289.6	5299.8	5304.1	5296.9	5307.0	5344.6	5360.5	5370.6
10°	4864.4	4818.1	4849.9	4845.6	4809.4	4930.9	4897.7	4916.5	4929.5	5062.5	5143.5
12.5°	4657.5	4686.5	4631.5	4604.0	4640.2	4664.8	4689.4	4637.3	4709.6	4676.3	4783.4
15°	4484.0	4466.6	4460.8	4462.3	4455.0	4489.8	4498.4	4510.0	4520.1	4565.0	4582.3
17.5°	4405.9	4434.8	4446.4	4455.0	4440.6	4424.7	4408.8	4385.6	4392.8	4381.3	4414.5
20°	3611.8	3514.9	3509.1	3565.5	3503.3	3538.0	3621.9	4183.1	4164.3	4382.7	4308.9
22.5°	3014.4	2923.3	2845.1	2777.2	2874.1	2914.6	3070.8	3247.3	3533.7	3488.8	3799.8
25°	2461.8	2428.6	2408.3	2398.2	2405.4	2402.5	2437.3	2519.7	2649.9	2956.5	3352.9
27.5°	2302.7	2286.8	2279.6	2256.4	2273.8	2268.0	2295.5	2312.9	2351.9	2382.3	2511.0
30°	2176.9	2158.1	2145.1	2120.5	2137.8	2139.3	2148.0	2192.8	2208.7	2234.8	2275.3
32.5°	795.5	468.6	439.7	418.0	457.1	595.9	1045.8	1828.3	2085.8	2106.0	2152.3
35°	78.1	65.1	57.9	57.9	59.3	65.1	86.8	228.5	418.0	1615.7	2022.1
37.5°	30.4	26.0	21.7	20.3	21.7	24.6	33.3	43.4	59.3	122.9	548.2
40°	13.0	11.6	10.1	10.1	10.1	10.1	11.6	14.5	21.7	40.5	63.6
42.5°	8.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	10.1	13.0	26.0
45°	5.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	7.2	11.6
47.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8
50°	4.3	4.3	4.3	4.3	2.9	4.3	2.9	4.3	4.3	4.3	4.3
52.5°	4.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.3	4.3
55°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.3
57.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
60°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
62.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.3	4.3	2.9
65°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4.3	2.9
67.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
70°	4.3	4.3	2.9	4.3	2.9	2.9	4.3	4.3	4.3	2.9	2.9
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	8.7	8.7	5.8
75°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	7.2	8.7	7.2
77.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	7.2	7.2	7.2
80°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	5.8
82.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	5.8
85°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	310°	315°	320°	325°	330°	335°	340°	341°	342°	343°	344°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4800.7	4799.3	4829.7	4852.8	4844.1	4852.8	4862.9	4864.4	4867.3	4855.7	4851.4
5°	5275.2	5230.3	5143.5	5081.3	5009.0	4877.4	4812.3	4819.5	4821.0	4816.6	4822.4
7.5°	5366.3	5362.0	5331.6	5318.6	5269.4	5175.4	5024.9	4998.9	4935.3	4894.8	4861.5
10°	5137.8	5241.9	5269.4	5315.7	5344.6	5327.2	5200.0	5181.2	5140.7	5094.4	5104.5
12.5°	4890.4	4975.8	4980.1	5231.8	5288.2	5294.0	5244.8	5270.8	5276.6	5172.5	5111.7
15°	4586.7	4627.2	4712.5	4946.8	5117.5	5224.5	5256.4	5270.8	5200.0	5195.6	5171.0
17.5°	4453.6	4479.6	4518.7	4650.3	4909.2	5066.9	5201.4	5191.3	5218.8	5198.5	5136.3
20°	4285.8	4307.5	4376.9	4443.5	4570.8	4780.5	5032.2	5051.0	5087.1	5082.8	5100.2
22.5°	4282.9	4206.3	4217.8	4269.9	4403.0	4591.0	4858.6	4920.8	4943.9	4959.8	4978.7
25°	3397.7	4006.6	4118.0	4151.3	4238.1	4348.0	4663.3	4686.5	4729.9	4800.7	4852.8
27.5°	2943.5	3357.2	3802.7	4034.1	4089.1	4180.2	4368.3	4403.0	4550.5	4567.9	4648.9
30°	2323.0	2642.6	3308.0	3864.9	3956.0	4019.7	4152.7	4222.2	4285.8	4355.2	4440.6
32.5°	2185.6	2236.2	2605.0	3198.1	3906.8	3859.1	3957.5	3999.4	4068.8	4129.6	4191.8
35°	2059.7	2094.4	2172.6	2619.5	3182.2	3727.5	3794.0	3821.5	3860.6	3906.8	3951.7
37.5°	1928.1	1980.2	2033.7	2153.8	2943.5	3623.3	3621.9	3653.7	3676.9	3715.9	3753.5
40°	350.0	1818.2	1905.0	1983.1	2282.5	2890.0	3459.9	3474.4	3490.3	3514.9	3553.9
42.5°	56.4	303.8	1784.9	1860.1	1945.5	2587.7	3386.1	3326.8	3316.7	3334.0	3368.8
45°	28.9	73.8	358.7	1737.2	1813.8	2064.1	2768.5	3224.1	3214.0	3180.7	3188.0
47.5°	21.7	46.3	88.2	600.3	1698.1	1771.9	2554.4	2526.9	2719.3	3088.2	3031.7
50°	18.8	31.8	52.1	122.9	1500.0	1631.6	1967.2	2298.4	2399.6	2412.7	2855.3
52.5°	17.4	21.7	37.6	79.6	315.3	1508.6	1599.8	1715.5	1886.2	2252.1	2243.4
55°	15.9	20.3	31.8	53.5	109.9	1359.7	1453.7	1475.4	1511.5	1686.6	1918.0
57.5°	8.7	18.8	30.4	46.3	82.4	248.8	1319.2	1336.5	1365.4	1372.7	1455.1
60°	4.3	17.4	27.5	40.5	60.8	115.7	1186.1	1206.3	1223.7	1226.6	1252.6
62.5°	2.9	15.9	23.1	37.6	50.6	82.4	280.6	572.8	1089.2	1089.2	1119.5
65°	2.9	11.6	14.5	24.6	46.3	68.0	118.6	137.4	267.6	658.1	982.1
67.5°	2.9	4.3	13.0	20.3	34.7	52.1	86.8	101.3	121.5	138.9	257.5
70°	2.9	2.9	11.6	13.0	21.7	39.1	62.2	70.9	82.4	94.0	108.5
72.5°	2.9	2.9	10.1	10.1	14.5	26.0	47.7	52.1	59.3	66.5	76.7
75°	7.2	5.8	8.7	8.7	10.1	20.3	36.2	40.5	43.4	49.2	56.4
77.5°	7.2	7.2	7.2	7.2	7.2	13.0	23.1	26.0	30.4	33.3	39.1
80°	5.8	5.8	5.8	7.2	7.2	8.7	14.5	15.9	17.4	21.7	23.1
82.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	8.7	10.1	13.0
85°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.8	5.8	5.8	5.8
87.5°	4.3	4.3	4.3	2.9	2.9	4.3	4.3	4.3	4.3	4.3	4.3
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	345°	346°	347°	348°	349°	350°	351°	352°	353°	354°	355°
0°	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4849.9	4841.2	4834.0	4838.3	4825.3	4819.5	4823.9	4825.3	4828.2	4835.5	4836.9
5°	4836.9	4834.0	4847.0	4854.3	4851.4	4854.3	4854.3	4848.5	4839.8	4845.6	4832.6
7.5°	4828.2	4809.4	4795.0	4797.8	4783.4	4800.7	4816.6	4839.8	4847.0	4847.0	4832.6
10°	4977.2	4957.0	4876.0	4821.0	4784.8	4753.0	4828.2	4751.6	4787.7	4650.3	4808.0
12.5°	5100.2	5127.6	5091.5	4941.0	4915.0	4819.5	4874.5	4780.5	4753.0	4595.3	4646.0
15°	5149.3	5097.3	5085.7	5043.7	4987.3	4959.8	4812.3	4796.4	4751.6	4768.9	4702.4
17.5°	5105.9	5132.0	5097.3	5069.8	5011.9	4946.8	4858.6	4780.5	4718.3	4579.4	4696.6
20°	5064.0	5098.7	4994.6	5011.9	5017.7	4942.5	4896.2	4831.1	4753.0	4622.8	4521.6
22.5°	4994.6	4970.0	4978.7	4952.6	4930.9	4941.0	4877.4	4832.6	4700.9	4641.6	4504.2
25°	4881.7	4873.1	4896.2	4893.3	4841.2	4823.9	4792.1	4744.3	4692.3	4596.8	4484.0
27.5°	4698.0	4742.9	4783.4	4802.2	4774.7	4728.4	4711.1	4683.6	4647.4	4550.5	4466.6
30°	4504.2	4554.8	4601.1	4641.6	4666.2	4646.0	4630.1	4614.1	4559.2	4495.5	4401.5
32.5°	4282.9	4349.4	4413.1	4462.3	4515.8	4531.7	4520.1	4507.1	4460.8	4403.0	4327.8
35°	4026.9	4118.0	4210.6	4298.8	4322.0	4359.6	4397.2	4375.5	4350.9	4293.0	4223.6
37.5°	3809.9	3875.0	3941.6	4052.9	4133.9	4181.7	4248.2	4256.9	4214.9	4187.4	4096.3
40°	3585.7	3645.0	3741.9	3807.0	3918.4	3973.4	4044.2	4076.1	4065.9	4050.0	3970.5
42.5°	3409.3	3438.2	3501.8	3559.7	3669.6	3782.4	3844.6	3879.4	3915.5	3902.5	3862.0
45°	3221.2	3247.3	3269.0	3319.6	3426.6	3526.4	3603.1	3655.2	3720.2	3750.6	3701.4
47.5°	3034.6	3041.9	3067.9	3109.8	3173.5	3250.2	3378.9	3457.0	3517.7	3577.0	3545.2
50°	2891.4	2865.4	2869.7	2895.8	2947.8	3023.1	3115.6	3225.6	3295.0	3367.3	3374.5
52.5°	2526.9	2738.1	2687.5	2702.0	2729.4	2765.6	2862.5	2971.0	3056.3	3118.5	3180.7
55°	2120.5	2162.4	2568.9	2511.0	2528.4	2560.2	2605.0	2713.5	2796.0	2882.8	2969.5
57.5°	1644.6	1957.0	1972.9	2349.0	2340.3	2343.2	2380.8	2443.0	2525.5	2634.0	2707.7
60°	1278.7	1410.3	1666.3	1796.5	2126.3	2137.8	2159.5	2195.7	2266.6	2369.3	2486.4
62.5°	1128.2	1145.6	1236.7	1432.0	1646.1	1905.0	1951.2	1957.0	1988.9	2091.6	2227.5
65°	990.8	1002.4	1029.9	1050.1	1229.5	1479.7	1702.5	1738.6	1758.9	1819.6	1935.3
67.5°	682.7	863.5	888.1	902.6	919.9	1035.7	1311.9	1495.6	1518.8	1572.3	1673.5
70°	131.6	273.4	747.8	763.7	772.4	798.4	843.3	1135.5	1288.8	1339.4	1385.7
72.5°	89.7	105.6	127.3	300.9	636.4	650.9	661.0	698.6	957.5	1105.1	1129.7
75°	65.1	72.3	85.3	105.6	130.2	423.8	525.1	543.9	562.7	776.7	901.1
77.5°	46.3	52.1	57.9	68.0	79.6	102.7	147.5	406.4	425.3	435.4	614.7
80°	26.0	31.8	39.1	44.8	50.6	57.9	75.2	94.0	209.7	306.6	322.6
82.5°	14.5	17.4	20.3	24.6	27.5	34.7	41.9	50.6	66.5	98.4	208.3
85°	7.2	7.2	7.2	10.1	11.6	15.9	18.8	21.7	30.4	41.9	57.9
87.5°	4.3	4.3	5.8	5.8	5.8	7.2	7.2	7.2	8.7	13.0	18.8
90°	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-LD5-87HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	356°	357°	358°	359°	360°
0°	4819.5	4819.5	4819.5	4819.5	4819.5
2.5°	4838.3	4834.0	4834.0	4851.4	4847.0
5°	4829.7	4825.3	4823.9	4842.7	4834.0
7.5°	4822.4	4806.5	4802.2	4819.5	4812.3
10°	4793.5	4781.9	4789.2	4783.4	4780.5
12.5°	4744.3	4737.1	4706.7	4709.6	4734.2
15°	4656.1	4685.0	4633.0	4679.2	4689.4
17.5°	4494.1	4559.2	4609.8	4637.3	4641.6
20°	4566.4	4588.1	4562.1	4563.5	4580.9
22.5°	4472.4	4482.5	4489.8	4481.1	4518.7
25°	4322.0	4282.9	4366.8	4384.2	4444.9
27.5°	4275.7	4243.9	4282.9	4280.0	4330.6
30°	4238.1	4135.4	4152.7	4180.2	4242.4
32.5°	4184.6	4022.6	4005.2	4065.9	4135.4
35°	4090.5	3937.2	3896.7	3935.8	4039.9
37.5°	4011.0	3818.6	3737.6	3789.7	3925.6
40°	3892.4	3726.0	3600.2	3646.5	3807.0
42.5°	3750.6	3646.5	3452.7	3484.5	3668.2
45°	3607.4	3514.9	3309.5	3325.4	3543.8
47.5°	3461.3	3376.0	3160.5	3163.4	3384.7
50°	3318.1	3205.3	3027.4	2976.8	3215.4
52.5°	3131.5	3027.4	2892.9	2810.4	3054.9
55°	2955.1	2837.9	2739.6	2612.3	2872.6
57.5°	2783.0	2652.8	2586.2	2422.8	2665.8
60°	2547.2	2485.0	2386.6	2230.4	2479.2
62.5°	2305.6	2285.4	2185.6	2023.6	2249.2
65°	2023.6	2071.3	1968.6	1829.7	2010.6
67.5°	1757.4	1842.8	1729.9	1644.6	1780.6
70°	1473.9	1572.3	1508.6	1478.3	1536.1
72.5°	1194.8	1290.2	1296.0	1274.3	1293.1
75°	922.8	1028.4	1086.3	1053.0	1057.3
77.5°	700.1	750.7	814.3	840.4	834.6
80°	432.5	520.7	572.8	626.3	607.5
82.5°	218.4	292.2	355.8	413.7	386.2
85°	91.1	117.2	163.4	215.5	206.8
87.5°	27.5	46.3	49.2	69.4	65.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)