

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-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 (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-L950-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
METALIC FINISH REFLECTOR
Light Source: -
Ballast/Driver: -

Summary

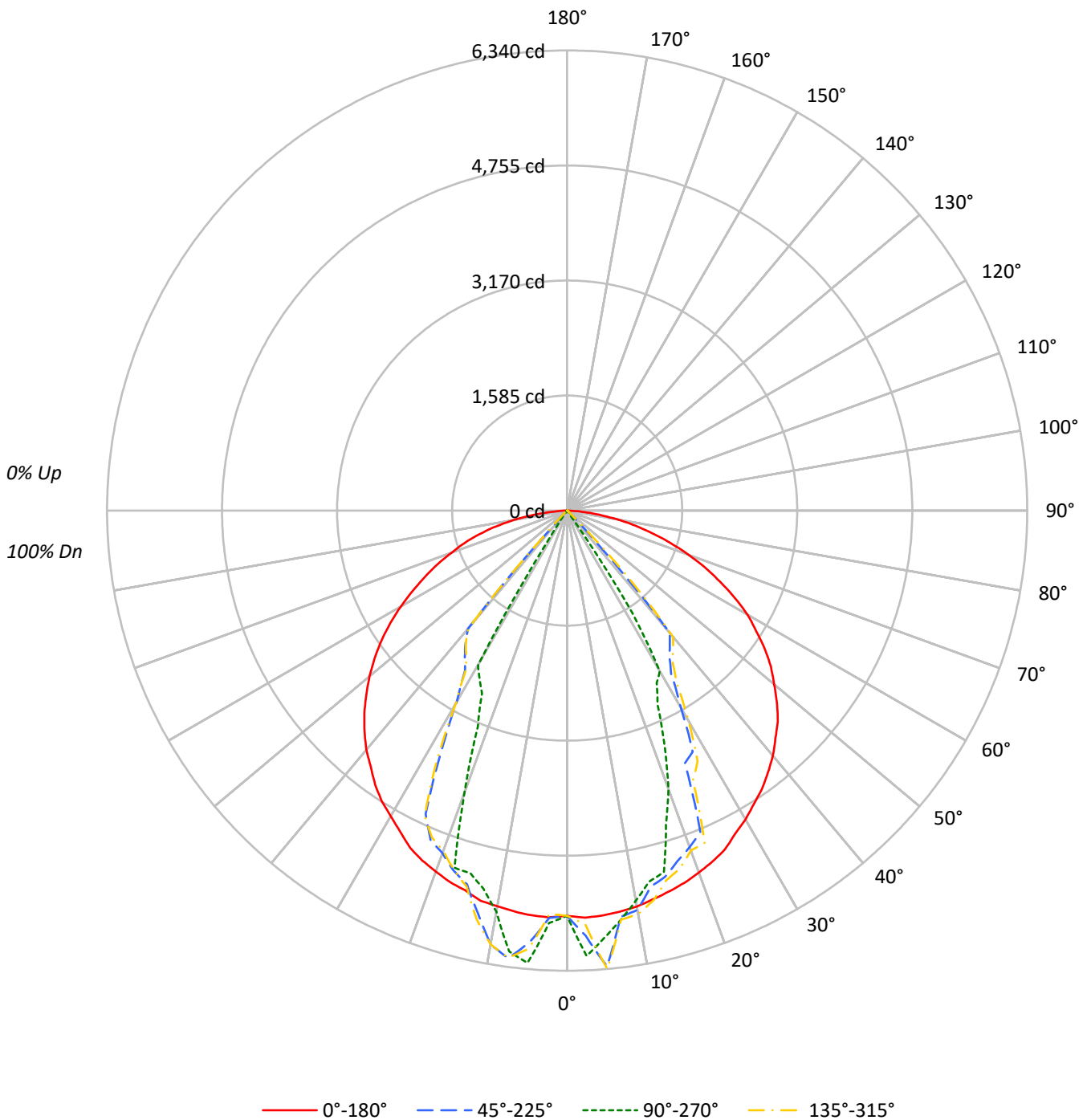
Lumens per Lamp: N/A
Luminaire Lumens: 7938.0 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 0.81 / 0.97
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

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



TEST NUMBER: P#
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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	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°	45113	45113	45113	45113
5°	45297	46398	45284	49135
10°	45189	41985	45161	43198
15°	45066	39189	44954	39291
20°	45117	30867	44990	31247
25°	45249	22338	45027	21079
30°	45042	19595	44566	18837
35°	45175	432	44512	523
40°	45330	94	44245	94
45°	45489	56	43782	42
50°	45143	43	43071	43
55°	44876	31	42120	31
60°	44029	33	40587	33
65°	41735	53	38762	36
70°	38716	58	36858	58
75°	34247	65	34809	65
80°	27818	74	29407	74
85°	16369	88	16710	88



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	560.1	7.1
10°-20°	1527.7	19.2
20°-30°	1944.0	24.5
30°-40°	1642.2	20.7
40°-50°	1073.6	13.5
50°-60°	676.5	8.5
60°-70°	360.1	4.5
70°-80°	131.3	1.7
80°-90°	22.6	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°	4031.8	50.8
0°-40°	5674.0	71.5
0°-60°	7424.0	93.5
0°-90°	7938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7938.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5583	5583	5583	5583	5583	
5°	5599	5908	5598	6256	5599	532
15°	5432	5155	5418	5169	5432	1536
25°	5149	2944	5124	2778	5149	2368
35°	4680	55	4611	67	4680	2927
45°	4105	7	3951	5	4105	3157
55°	3327	3	3123	3	3327	2965
65°	2329	5	2163	3	2329	2306
75°	1225	5	1245	5	1225	1300
85°	240	5	245	5	240	303
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-87HL-RM-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5614.4	5617.8	5619.5	5622.8	5627.8	5629.5	5632.9	5629.5	5629.5	5629.5	5629.5
5°	5599.3	5606.1	5611.1	5617.8	5629.5	5631.2	5644.6	5646.3	5653.0	5666.4	5676.4
7.5°	5574.2	5580.9	5591.0	5607.7	5624.5	5642.9	5666.4	5691.5	5726.7	5760.2	5802.1
10°	5537.4	5545.7	5557.5	5572.5	5654.6	5666.4	5718.3	5790.4	5810.5	5916.0	5994.8
12.5°	5483.7	5512.2	5542.4	5555.8	5634.5	5758.5	5932.8	5897.6	5859.0	6204.2	6199.2
15°	5431.8	5470.3	5455.3	5564.2	5636.2	5852.3	5778.6	5936.1	6224.3	6153.9	6157.3
17.5°	5376.5	5384.9	5468.7	5559.1	5688.1	5798.7	5889.2	6105.3	6162.3	6167.3	6105.3
20°	5306.1	5346.4	5468.7	5550.8	5768.6	5820.5	6016.5	6127.1	6103.7	6046.7	5941.1
22.5°	5234.1	5356.4	5480.4	5596.0	5748.5	5887.5	5984.7	6036.6	5914.3	5689.8	5569.2
25°	5148.7	5220.7	5383.2	5552.4	5743.4	5823.9	5880.8	5797.1	5637.9	5436.8	5234.1
27.5°	5016.3	5131.9	5339.7	5530.7	5703.2	5800.4	5708.3	5507.2	5250.9	5118.5	5026.3
30°	4914.1	5064.9	5235.8	5420.1	5599.3	5656.3	5421.8	5192.2	5016.3	4883.9	4863.8
32.5°	4790.1	5004.6	5167.1	5343.0	5493.8	5418.4	5190.5	4894.0	4748.2	4698.0	4718.1
35°	4679.5	4842.0	5054.8	5227.4	5336.3	5167.1	4806.9	4622.6	4552.2	4580.7	4543.8
37.5°	4547.2	4761.6	4957.7	5106.8	5069.9	4815.2	4510.3	4393.0	4401.4	4377.9	4307.6
40°	4409.8	4614.2	4818.6	4959.3	4830.3	4441.6	4238.9	4213.8	4218.8	4143.4	4042.9
42.5°	4248.9	4434.9	4639.3	4766.7	4488.5	4185.3	4047.9	4051.2	4007.7	3902.1	3848.5
45°	4104.8	4275.7	4488.5	4500.3	4158.5	3905.5	3865.3	3821.7	3724.5	3689.3	3649.1
47.5°	3920.6	4109.9	4285.8	4222.1	3835.1	3677.6	3647.5	3552.0	3503.4	3476.6	3443.0
50°	3724.5	3915.5	4076.4	3895.4	3530.2	3493.3	3394.5	3319.1	3285.6	3257.1	3226.9
52.5°	3538.5	3696.0	3860.2	3548.6	3295.6	3260.4	3148.2	3104.6	3071.1	3039.3	3032.6
55°	3327.4	3466.5	3578.8	3218.5	3071.1	2989.0	2908.6	2878.4	2846.6	2831.5	2856.6
57.5°	3087.9	3245.3	3228.6	2893.5	2828.2	2709.2	2679.0	2658.9	2635.5	2645.5	2436.1
60°	2871.7	2992.4	2910.3	2655.6	2545.0	2464.6	2437.8	2424.4	2437.8	2233.4	1963.6
62.5°	2605.3	2741.0	2575.2	2377.5	2260.2	2221.6	2198.2	2216.6	2020.6	1796.1	1730.7
65°	2328.9	2476.3	2231.7	2079.2	2005.5	1972.0	1970.3	1814.5	1621.8	1534.7	1534.7
67.5°	2062.5	2214.9	1900.0	1772.6	1744.1	1747.5	1650.3	1414.1	1360.5	1301.8	1132.6
70°	1779.3	1913.4	1569.9	1492.8	1476.1	1464.3	1228.1	1164.4	1100.8	945.0	931.5
72.5°	1497.9	1563.2	1261.6	1243.2	1239.8	1030.4	983.5	874.6	800.9	782.4	774.1
75°	1224.8	1204.6	996.9	1013.6	854.5	780.8	705.4	641.7	631.6	624.9	155.8
77.5°	966.7	866.2	785.8	683.6	611.5	519.4	504.3	494.3	325.0	117.3	95.5
80°	703.7	561.3	522.7	444.0	378.7	363.6	371.9	113.9	90.5	75.4	65.3
82.5°	447.3	358.5	293.2	256.3	249.6	108.9	80.4	65.3	57.0	48.6	40.2
85°	239.6	159.2	147.4	124.0	73.7	50.3	41.9	31.8	26.8	21.8	20.1
87.5°	75.4	63.7	51.9	41.9	25.1	16.8	13.4	11.7	10.1	8.4	8.4
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°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5626.2	5629.5	5627.8	5632.9	5632.9	5639.6	5644.6	5649.6	5659.7	5664.7	5703.2
5°	5698.2	5706.6	5731.7	5755.2	5783.6	5792.0	5840.6	5852.3	5909.3	5916.0	6103.7
7.5°	5859.0	5890.9	5951.2	6011.5	6071.8	6110.4	6177.4	6219.3	6264.5	6304.7	6453.8
10°	6053.4	6107.0	6165.7	6226.0	6261.2	6334.9	6375.1	6381.8	6370.1	6304.7	6063.4
12.5°	6244.4	6298.0	6272.9	6284.6	6326.5	6195.8	6214.2	6120.4	6185.8	5862.4	5622.8
15°	6217.6	6214.2	6152.2	5951.2	5984.7	5735.1	5634.5	5557.5	5619.5	5585.9	5549.1
17.5°	6137.2	5984.7	5877.5	5636.2	5534.0	5463.6	5465.3	5467.0	5436.8	5468.7	5374.8
20°	5797.1	5626.2	5467.0	5381.5	5351.4	5301.1	5326.3	5301.1	5302.8	5312.8	5168.8
22.5°	5344.7	5292.7	5200.6	5227.4	5217.3	5262.6	5229.1	5177.1	5193.9	5118.5	5009.6
25°	5162.1	5101.7	5098.4	5108.4	5093.4	5073.3	5043.1	4964.4	4959.3	4935.9	4885.6
27.5°	4977.8	4981.1	4991.2	4961.0	4907.4	4867.2	4821.9	4783.4	4798.5	4771.7	4703.0
30°	4850.4	4848.7	4788.4	4761.6	4662.8	4664.4	4652.7	4629.3	4614.2	4615.9	4572.3
32.5°	4669.5	4617.5	4548.8	4515.3	4507.0	4476.8	4453.3	4458.4	4470.1	4428.2	4473.4
35°	4483.5	4376.3	4366.2	4337.7	4310.9	4290.8	4299.2	4265.7	4264.0	4259.0	3890.4
37.5°	4233.9	4181.9	4176.9	4146.7	4128.3	4123.3	4091.4	4096.5	4111.6	4138.4	3317.4
40°	4027.8	3980.9	3969.1	3967.5	3927.3	3923.9	3932.3	3964.1	3985.9	3818.3	3161.6
42.5°	3806.6	3810.0	3773.1	3749.7	3754.7	3769.8	3810.0	3699.4	3205.1	3054.3	2890.1
45°	3617.3	3600.5	3580.4	3573.7	3617.3	3587.1	3144.8	2901.9	2843.2	2836.5	2375.8
47.5°	3419.6	3414.6	3406.2	3411.2	3163.2	2819.8	2719.3	2687.4	2697.5	2690.8	2040.7
50°	3220.2	3226.9	3226.9	2818.1	2586.9	2529.9	2538.3	2566.8	2389.2	2230.0	1901.6
52.5°	3047.6	2995.7	2566.8	2419.3	2367.4	2392.5	2332.2	2109.4	1948.5	1854.7	1759.2
55°	2727.6	2345.6	2250.1	2226.7	2245.1	2022.3	1884.9	1740.8	1698.9	1688.9	1633.6
57.5°	2146.2	2069.2	2077.6	1983.7	1770.9	1645.3	1590.0	1569.9	1551.5	1538.1	134.0
60°	1898.3	1920.1	1757.5	1556.5	1471.0	1454.3	1440.9	1422.5	1419.1	1395.6	85.4
62.5°	1737.4	1528.0	1387.3	1337.0	1316.9	1311.9	1286.7	1278.4	1085.7	149.1	63.7
65°	1310.2	1224.8	1197.9	1186.2	1164.4	1164.4	966.7	152.5	124.0	107.2	57.0
67.5°	1068.9	1062.2	1048.8	1033.8	703.7	147.4	129.0	112.3	97.2	85.4	50.3
70°	904.7	901.4	821.0	150.8	125.7	110.6	97.2	87.1	80.4	72.0	45.2
72.5°	742.2	150.8	127.3	110.6	95.5	87.1	78.7	70.4	63.7	58.6	36.9
75°	115.6	102.2	90.5	82.1	75.4	67.0	60.3	55.3	53.6	46.9	25.1
77.5°	83.8	72.0	65.3	58.6	51.9	46.9	40.2	35.2	31.8	26.8	18.4
80°	58.6	51.9	46.9	38.5	33.5	28.5	25.1	21.8	20.1	16.8	8.4
82.5°	33.5	28.5	25.1	20.1	18.4	15.1	13.4	11.7	11.7	8.4	8.4
85°	15.1	15.1	11.7	10.1	8.4	8.4	8.4	6.7	6.7	5.0	5.0
87.5°	6.7	6.7	6.7	6.7	6.7	5.0	5.0	5.0	5.0	5.0	3.4
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°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5756.8	5778.6	5820.5	5864.1	5815.5	5989.7	5976.3	6035.0	6066.8	6081.9	6117.1
5°	6269.5	6366.7	6398.5	6303.0	6247.7	6190.8	6061.8	5964.6	5976.3	5944.5	5828.9
7.5°	6259.5	6051.7	5771.9	5644.6	5634.5	5619.5	5659.7	5683.1	5686.5	5684.8	5681.4
10°	5730.0	5622.8	5604.4	5587.6	5594.3	5532.3	5503.8	5423.4	5467.0	5443.5	5451.9
12.5°	5569.2	5544.1	5445.2	5307.8	5389.9	5327.9	5292.7	5316.2	5289.4	5264.3	5255.9
15°	5473.7	5311.2	5255.9	5222.4	5198.9	5185.5	5197.2	5170.4	5162.1	5157.0	5168.8
17.5°	5276.0	5210.6	5150.3	5061.5	5063.2	5058.2	5091.7	5142.0	5145.3	4887.3	4654.4
20°	5120.2	5066.6	4989.5	4934.2	5009.6	4875.6	4357.8	4111.6	4073.0	4073.0	4079.7
22.5°	4996.2	4877.2	4882.3	4795.1	4089.8	3945.7	3949.0	3964.1	3895.4	3660.9	3635.7
25°	4827.0	4808.5	4441.6	3838.5	3843.5	3731.2	3558.7	3315.7	3052.7	3052.7	3009.1
27.5°	4699.6	4309.3	3773.1	3748.0	3371.0	3133.1	2985.6	2762.8	2732.7	2704.2	2707.5
30°	4590.7	3645.8	3659.2	3133.1	2855.0	2657.3	2645.5	2608.7	2590.2	2585.2	2566.8
32.5°	3629.0	3550.3	3062.7	2667.3	2558.4	2526.6	2511.5	2469.6	2467.9	2436.1	2214.9
35°	3402.8	3116.3	2563.4	2456.2	2424.4	2394.2	2369.1	1590.0	187.7	75.4	65.3
37.5°	3144.8	2603.6	2370.8	2322.2	2292.0	1693.9	169.2	58.6	41.9	30.2	26.8
40°	2665.6	2325.5	2251.8	2198.2	906.4	58.6	36.9	28.5	16.8	15.1	13.4
42.5°	2248.5	2191.5	2112.7	643.4	67.0	28.5	18.4	13.4	11.7	11.7	10.1
45°	2104.4	2054.1	851.1	63.7	41.9	13.4	11.7	11.7	10.1	6.7	6.7
47.5°	1970.3	1734.1	77.1	40.2	26.8	11.7	10.1	6.7	6.7	6.7	5.0
50°	1827.9	95.5	53.6	30.2	16.8	6.7	6.7	6.7	6.7	5.0	5.0
52.5°	341.8	67.0	43.6	26.8	8.4	6.7	6.7	6.7	5.0	5.0	5.0
55°	80.4	53.6	40.2	23.5	6.7	6.7	6.7	5.0	5.0	5.0	3.4
57.5°	60.3	40.2	31.8	21.8	6.7	5.0	5.0	5.0	5.0	5.0	3.4
60°	50.3	28.5	25.1	20.1	5.0	5.0	5.0	5.0	5.0	5.0	3.4
62.5°	35.2	23.5	18.4	15.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0
65°	28.5	18.4	15.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
67.5°	25.1	15.1	10.1	3.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70°	20.1	5.0	5.0	3.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	16.8	5.0	3.4	3.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0
75°	16.8	8.4	3.4	3.4	5.0	5.0	6.7	6.7	5.0	5.0	5.0
77.5°	11.7	8.4	3.4	3.4	5.0	5.0	6.7	6.7	5.0	5.0	5.0
80°	6.7	8.4	3.4	5.0	5.0	10.1	11.7	6.7	5.0	5.0	5.0
82.5°	6.7	8.4	10.1	10.1	5.0	8.4	10.1	8.4	6.7	5.0	5.0
85°	6.7	5.0	6.7	8.4	5.0	8.4	8.4	6.7	6.7	5.0	5.0
87.5°	3.4	5.0	5.0	6.7	6.7	6.7	8.4	6.7	6.7	6.7	5.0
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	6133.8	6140.5	6035.0	5998.1	6029.9	6023.2	5994.8	5889.2	5877.5	5807.1	5704.9
5°	5862.4	5907.6	5852.3	5947.8	5902.6	5947.8	6085.2	6148.9	6252.8	6316.4	6339.9
7.5°	5673.1	5683.1	5683.1	5691.5	5699.9	5701.6	5691.5	5684.8	5656.3	5621.1	5684.8
10°	5443.5	5455.3	5475.4	5472.0	5470.3	5505.5	5513.9	5585.9	5582.6	5596.0	5644.6
12.5°	5324.6	5234.1	5316.2	5294.4	5324.6	5277.7	5364.8	5349.7	5354.7	5394.9	5498.8
15°	5126.9	5155.4	5175.5	5175.5	5187.2	5177.1	5167.1	5235.8	5277.7	5279.3	5272.6
17.5°	4746.5	4530.4	4751.6	4694.6	5148.7	5160.4	5121.8	5090.0	5090.0	5115.1	5168.8
20°	4074.7	4079.7	4081.4	4103.2	4130.0	4128.3	4130.0	4790.1	5103.4	5031.4	4982.8
22.5°	3572.1	3510.1	3625.7	3617.3	3761.4	3920.6	4073.0	4057.9	4068.0	4533.8	4952.6
25°	2863.3	2943.8	2878.4	2906.9	3069.4	3258.7	3376.0	3682.6	4016.1	3992.6	4101.5
27.5°	2695.8	2674.0	2704.2	2704.2	2726.0	2751.1	2816.4	2989.0	3285.6	3597.2	3892.1
30°	2536.6	2555.1	2558.4	2588.6	2605.3	2622.1	2632.1	2697.5	2764.5	2980.6	3344.2
32.5°	1905.0	1670.4	2198.2	2340.6	2461.2	2489.7	2509.8	2536.6	2585.2	2617.1	2799.7
35°	55.3	55.3	58.6	67.0	85.4	576.4	2194.8	2419.3	2451.2	2491.4	2524.9
37.5°	26.8	20.1	23.5	25.1	30.2	41.9	60.3	187.7	2089.3	2362.4	2399.2
40°	11.7	11.7	11.7	11.7	13.4	16.8	25.1	41.9	63.7	1680.5	2266.9
42.5°	10.1	10.1	10.1	10.1	10.1	10.1	11.7	15.1	30.2	72.0	1189.6
45°	6.7	6.7	5.0	6.7	6.7	8.4	10.1	10.1	13.4	45.2	82.1
47.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.4	10.1	30.2	43.6
50°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	23.5	30.2
52.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.1	26.8
55°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.0	5.0	6.7	23.5
57.5°	3.4	3.4	3.4	3.4	3.4	5.0	3.4	3.4	5.0	5.0	21.8
60°	3.4	3.4	3.4	3.4	3.4	5.0	5.0	5.0	5.0	5.0	20.1
62.5°	5.0	5.0	3.4	5.0	3.4	3.4	5.0	5.0	5.0	5.0	13.4
65°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.4	5.0
67.5°	5.0	5.0	5.0	5.0	3.4	5.0	3.4	5.0	5.0	3.4	3.4
70°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.4	3.4	3.4	3.4
72.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.4	3.4	3.4	3.4
75°	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	3.4	3.4	3.4
77.5°	5.0	5.0	5.0	5.0	5.0	5.0	8.4	10.1	8.4	8.4	3.4
80°	5.0	5.0	5.0	5.0	5.0	5.0	8.4	8.4	8.4	8.4	11.7
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.7	6.7	8.4
85°	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.7	5.0	6.7
87.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	5.0	5.0	5.0
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	140°	145°	150°	155°	160°	161°	162°	163°	164°	165°	166°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5713.3	5656.3	5637.9	5599.3	5596.0	5599.3	5591.0	5579.2	5585.9	5574.2	5564.2
5°	6353.3	6200.8	6102.0	5969.6	5787.0	5746.8	5736.7	5679.8	5659.7	5653.0	5626.2
7.5°	5835.6	6113.7	6281.3	6338.2	6123.8	6073.5	6014.9	5967.9	5922.7	5837.3	5785.3
10°	5606.1	5619.5	5780.3	5967.9	6272.9	6314.8	6346.6	6244.4	6215.9	5998.1	5951.2
12.5°	5552.4	5554.1	5572.5	5686.5	5926.1	5952.9	6065.1	6125.4	6199.2	6241.0	6207.5
15°	5307.8	5443.5	5544.1	5554.1	5575.9	5622.8	5656.3	5865.7	5954.5	6192.5	6179.1
17.5°	5193.9	5237.5	5383.2	5502.2	5482.1	5465.3	5492.1	5520.6	5606.1	5844.0	5840.6
20°	5004.6	5143.6	5222.4	5346.4	5458.6	5463.6	5433.5	5416.7	5383.2	5421.8	5456.9
22.5°	4924.1	4945.9	5093.4	5180.5	5307.8	5353.1	5359.8	5361.4	5343.0	5322.9	5312.8
25°	4915.8	4847.1	4922.5	5031.4	5125.2	5173.8	5229.1	5247.5	5240.8	5240.8	5230.8
27.5°	4022.8	4825.3	4785.1	4857.1	4971.1	5004.6	5033.0	5090.0	5125.2	5150.3	5162.1
30°	3831.8	3975.8	4677.9	4687.9	4803.5	4800.2	4832.0	4878.9	4924.1	4982.8	4997.9
32.5°	3389.4	3743.0	4282.4	4518.7	4639.3	4651.0	4667.8	4681.2	4723.1	4788.4	4845.4
35°	2715.9	3409.5	3669.2	4438.3	4460.0	4483.5	4493.6	4525.4	4538.8	4565.6	4615.9
37.5°	2457.9	2818.1	3520.1	3838.5	4254.0	4274.1	4327.7	4341.1	4362.9	4384.6	4423.2
40°	2308.8	2407.6	2930.4	3428.0	4088.1	4101.5	4119.9	4153.4	4155.1	4180.2	4215.4
42.5°	2189.8	2253.5	2405.9	3273.8	3970.8	3969.1	3925.6	3947.4	3957.4	3984.2	4032.8
45°	1749.2	2114.4	2211.6	2674.0	3161.6	3389.4	3826.7	3754.7	3753.0	3763.1	3815.0
47.5°	88.8	1988.8	2057.5	2206.6	2985.6	2994.0	3051.0	3530.2	3603.9	3580.4	3585.5
50°	60.3	137.4	1916.7	1985.4	2573.5	2781.2	2823.1	2844.9	3121.4	3429.6	3379.4
52.5°	46.9	78.7	1174.5	1843.0	2091.0	2243.4	2513.2	2667.3	2684.1	2808.1	3228.6
55°	41.9	60.3	127.3	1700.6	1777.7	1811.2	1968.7	2238.4	2456.2	2521.6	2526.6
57.5°	36.9	55.3	87.1	769.0	1616.8	1623.5	1650.3	1744.1	1940.2	2119.4	2322.2
60°	33.5	48.6	68.7	132.4	1469.4	1486.1	1491.1	1516.3	1539.7	1662.0	1894.9
62.5°	20.1	38.5	60.3	95.5	1162.8	1335.3	1333.7	1350.4	1372.2	1385.6	1432.5
65°	16.8	30.2	51.9	80.4	142.4	177.6	1079.0	1199.6	1213.0	1231.5	1239.8
67.5°	15.1	26.8	38.5	63.7	107.2	122.3	140.7	174.2	951.7	1072.3	1089.0
70°	13.4	18.4	31.8	53.6	87.1	93.8	105.6	120.6	142.4	175.9	861.2
72.5°	8.4	13.4	21.8	38.5	67.0	75.4	82.1	92.1	102.2	122.3	140.7
75°	3.4	10.1	18.4	28.5	51.9	57.0	62.0	68.7	77.1	90.5	100.5
77.5°	3.4	8.4	15.1	20.1	33.5	38.5	45.2	50.3	57.0	63.7	73.7
80°	11.7	6.7	10.1	15.1	23.5	25.1	28.5	31.8	36.9	41.9	48.6
82.5°	8.4	10.1	11.7	10.1	11.7	15.1	16.8	20.1	21.8	25.1	26.8
85°	6.7	6.7	8.4	8.4	8.4	8.4	8.4	8.4	10.1	11.7	15.1
87.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	167°	168°	169°	170°	171°	172°	173°	174°	175°	176°	177°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5564.2	5560.8	5550.8	5550.8	5549.1	5555.8	5560.8	5565.8	5564.2	5574.2	5564.2
5°	5606.1	5597.7	5582.6	5569.2	5564.2	5567.5	5562.5	5567.5	5560.8	5569.2	5554.1
7.5°	5721.7	5693.2	5634.5	5611.1	5580.9	5579.2	5564.2	5560.8	5550.8	5550.8	5532.3
10°	5926.1	5788.7	5771.9	5701.6	5676.4	5554.1	5580.9	5535.7	5530.7	5508.9	5500.5
12.5°	6093.6	5986.4	5954.5	5892.6	5822.2	5574.2	5629.5	5532.3	5527.3	5483.7	5438.5
15°	6097.0	6158.9	6071.8	5900.9	5885.9	5715.0	5602.7	5569.2	5525.6	5394.9	5416.7
17.5°	5900.9	6043.3	6085.2	6048.4	5941.1	5825.5	5668.0	5601.0	5470.3	5411.7	5371.5
20°	5582.6	5726.7	5906.0	5917.7	5984.7	5902.6	5696.5	5587.6	5430.1	5327.9	5294.4
22.5°	5329.6	5435.2	5641.2	5736.7	5818.8	5847.3	5716.6	5555.8	5359.8	5260.9	5240.8
25°	5195.6	5219.0	5281.0	5393.3	5574.2	5704.9	5723.3	5552.4	5450.2	5234.1	5120.2
27.5°	5147.0	5126.9	5101.7	5158.7	5294.4	5453.6	5559.1	5587.6	5333.0	5126.9	5012.9
30°	5023.0	5034.7	4996.2	4976.1	5064.9	5229.1	5416.7	5463.6	5267.6	5054.8	4924.1
32.5°	4870.5	4890.6	4897.3	4862.2	4843.7	4957.7	5160.4	5272.6	5262.6	4952.6	4806.9
35°	4679.5	4736.5	4751.6	4753.2	4723.1	4704.7	4821.9	5054.8	5143.6	4905.7	4694.6
37.5°	4478.5	4495.2	4577.3	4599.1	4599.1	4543.8	4630.9	4816.9	4940.9	4800.2	4557.2
40°	4227.2	4280.8	4357.8	4396.4	4434.9	4439.9	4391.4	4522.0	4726.4	4691.3	4428.2
42.5°	4044.5	4079.7	4126.6	4178.6	4257.3	4277.4	4227.2	4250.6	4463.4	4555.5	4260.7
45°	3831.8	3878.7	3892.1	3949.0	4031.1	4089.8	4088.1	4039.5	4210.4	4324.3	4138.4
47.5°	3613.9	3659.2	3682.6	3711.1	3771.4	3846.8	3888.7	3866.9	3900.4	4123.3	3975.8
50°	3389.4	3414.6	3461.5	3493.3	3533.5	3577.1	3677.6	3697.7	3650.8	3828.4	3796.6
52.5°	3176.7	3185.0	3216.9	3248.7	3302.3	3334.1	3414.6	3474.9	3471.5	3523.5	3597.2
55°	3010.8	2973.9	2980.6	3005.8	3040.9	3089.5	3134.8	3228.6	3260.4	3270.5	3387.8
57.5°	2352.3	2731.0	2764.5	2762.8	2804.7	2826.5	2868.4	2930.4	3044.3	3019.2	3149.8
60°	2137.9	2179.8	2496.4	2533.3	2548.4	2568.5	2618.7	2675.7	2759.5	2813.1	2870.0
62.5°	1630.2	1884.9	1980.4	2260.2	2303.7	2315.5	2349.0	2375.8	2462.9	2585.2	2561.8
65°	1261.6	1370.5	1662.0	1776.0	2013.9	2044.0	2091.0	2119.4	2144.6	2285.3	2292.0
67.5°	1090.7	1107.5	1186.2	1405.7	1556.5	1789.4	1817.9	1843.0	1881.5	1982.1	2044.0
70°	931.5	951.7	973.4	991.9	1187.9	1342.0	1558.2	1566.5	1591.7	1658.7	1799.4
72.5°	175.9	795.8	809.2	821.0	842.8	945.0	1151.0	1318.6	1328.6	1360.5	1489.5
75°	119.0	139.1	191.0	656.8	678.6	685.3	720.4	929.9	1084.0	1090.7	1147.7
77.5°	85.4	95.5	115.6	137.4	350.2	526.1	534.5	573.0	732.2	847.8	857.8
80°	58.6	65.3	77.1	87.1	107.2	140.7	388.7	400.4	420.5	579.7	609.9
82.5°	33.5	38.5	45.2	55.3	63.7	80.4	103.9	134.0	273.1	291.5	387.0
85°	16.8	18.4	21.8	26.8	31.8	38.5	51.9	63.7	87.1	157.5	162.5
87.5°	8.4	8.4	8.4	8.4	13.4	15.1	18.4	23.5	30.2	45.2	58.6
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	178°	179°	180°	181°	182°	183°	184°	185°	186°	187°	188°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5565.8	5589.3	5609.4	5614.4	5614.4	5617.8	5622.8	5626.2	5629.5	5632.9	5629.5
5°	5555.8	5580.9	5597.7	5602.7	5602.7	5612.8	5621.1	5631.2	5636.2	5636.2	5632.9
7.5°	5530.7	5549.1	5570.9	5584.3	5585.9	5602.7	5617.8	5616.1	5622.8	5626.2	5634.5
10°	5497.1	5497.1	5534.0	5544.1	5552.4	5570.9	5575.9	5585.9	5609.4	5612.8	5634.5
12.5°	5480.4	5463.6	5507.2	5512.2	5540.7	5517.3	5547.4	5557.5	5534.0	5565.8	5524.0
15°	5405.0	5425.1	5418.4	5433.5	5483.7	5456.9	5539.0	5512.2	5572.5	5500.5	5627.8
17.5°	5343.0	5339.7	5366.5	5379.9	5389.9	5446.9	5468.7	5498.8	5522.3	5502.2	5552.4
20°	5297.8	5271.0	5291.1	5306.1	5341.3	5384.9	5398.3	5353.1	5431.8	5565.8	5597.7
22.5°	5212.3	5193.9	5217.3	5217.3	5271.0	5264.3	5314.5	5286.0	5359.8	5515.6	5678.1
25°	5096.7	5098.4	5123.5	5153.7	5163.7	5239.1	5265.9	5302.8	5394.9	5580.9	5679.8
27.5°	4979.4	4969.4	4984.5	5046.5	5098.4	5153.7	5162.1	5287.7	5413.4	5540.7	5627.8
30°	4862.2	4852.1	4862.2	4907.4	4969.4	5006.2	5098.4	5265.9	5383.2	5470.3	5552.4
32.5°	4736.5	4726.4	4749.9	4783.4	4892.3	4897.3	5080.0	5237.5	5329.6	5393.3	5378.2
35°	4602.5	4589.1	4610.8	4662.8	4763.3	4800.2	4991.2	5108.4	5212.3	5242.5	5172.1
37.5°	4441.6	4418.2	4445.0	4517.0	4622.6	4729.8	4889.0	5024.7	5080.0	4999.5	4915.8
40°	4274.1	4257.3	4304.2	4341.1	4465.1	4614.2	4796.8	4892.3	4857.1	4765.0	4672.8
42.5°	4125.0	4089.8	4131.7	4202.0	4342.8	4512.0	4659.4	4713.0	4629.3	4493.6	4386.3
45°	3942.3	3900.4	3950.7	4044.5	4195.3	4388.0	4503.6	4485.2	4342.8	4225.5	4078.0
47.5°	3751.3	3701.1	3751.3	3863.6	4032.8	4237.2	4321.0	4237.2	4057.9	3910.5	3791.5
50°	3563.7	3505.0	3553.6	3722.8	3888.7	4046.2	4044.5	3882.0	3774.8	3613.9	3510.1
52.5°	3377.7	3293.9	3342.5	3526.8	3692.7	3872.0	3739.6	3588.8	3459.8	3319.1	3285.6
55°	3148.2	3057.7	3123.0	3391.1	3518.4	3624.0	3412.9	3280.5	3153.2	3082.8	3040.9
57.5°	2930.4	2831.5	2888.5	3205.1	3299.0	3325.8	3131.4	2943.8	2868.4	2844.9	2784.6
60°	2705.8	2593.6	2647.2	3012.5	3077.8	2968.9	2777.9	2632.1	2617.1	2570.1	2523.2
62.5°	2491.4	2367.4	2400.9	2772.9	2803.0	2605.3	2429.4	2390.9	2354.0	2307.1	2282.0
65°	2245.1	2116.1	2163.0	2518.2	2489.7	2235.0	2136.2	2127.8	2079.2	2040.7	2077.6
67.5°	2018.9	1866.4	1931.8	2240.1	2111.1	1903.3	1863.1	1843.0	1804.5	1826.2	1439.2
70°	1770.9	1605.1	1693.9	1940.2	1749.2	1611.8	1596.7	1566.5	1568.2	1246.5	1050.5
72.5°	1494.5	1350.4	1479.4	1611.8	1383.9	1343.7	1321.9	1318.6	1063.9	864.5	815.9
75°	1251.6	1105.8	1244.9	1295.1	1102.4	1075.6	1074.0	888.0	698.7	666.8	651.7
77.5°	976.8	864.5	996.9	921.5	846.1	815.9	732.2	549.5	526.1	504.3	189.3
80°	658.5	666.8	743.9	635.0	603.2	514.4	405.5	388.7	335.1	134.0	105.6
82.5°	400.4	502.6	474.2	397.1	388.7	279.8	256.3	130.7	97.2	77.1	67.0
85°	207.8	254.7	244.6	216.1	160.8	144.1	80.4	62.0	50.3	38.5	31.8
87.5°	70.4	93.8	90.5	72.0	55.3	43.6	28.5	23.5	16.8	13.4	11.7
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	189°	190°	191°	192°	193°	194°	195°	196°	197°	198°	199°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5626.2	5626.2	5622.8	5626.2	5627.8	5624.5	5624.5	5627.8	5629.5	5631.2	5639.6
5°	5634.5	5637.9	5642.9	5653.0	5654.6	5674.7	5683.1	5688.1	5693.2	5694.9	5683.1
7.5°	5653.0	5664.7	5674.7	5673.1	5661.3	5629.5	5619.5	5611.1	5626.2	5664.7	5709.9
10°	5669.7	5616.1	5515.6	5653.0	5611.1	5649.6	5763.5	5788.7	5865.7	5974.7	6006.5
12.5°	5554.1	5701.6	5733.4	5579.2	5864.1	5758.5	5884.2	5994.8	6026.6	6137.2	6070.2
15°	5678.1	5750.1	5798.7	5952.9	5936.1	6026.6	6061.8	6040.0	6045.0	6073.5	6148.9
17.5°	5676.4	5820.5	5852.3	5956.2	6026.6	6028.3	6018.2	6008.2	6035.0	6056.7	6011.5
20°	5773.6	5820.5	5882.5	5924.4	5937.8	5954.5	5986.4	5961.2	5911.0	5862.4	5842.3
22.5°	5725.0	5830.6	5884.2	5890.9	5882.5	5830.6	5783.6	5713.3	5689.8	5664.7	5673.1
25°	5735.1	5783.6	5776.9	5750.1	5715.0	5617.8	5594.3	5564.2	5518.9	5410.0	5311.2
27.5°	5663.0	5637.9	5607.7	5542.4	5478.7	5426.8	5368.1	5271.0	5190.5	5073.3	5029.7
30°	5542.4	5441.9	5368.1	5329.6	5267.6	5180.5	5091.7	4972.7	4870.5	4847.1	4825.3
32.5°	5311.2	5212.3	5152.0	5058.2	4952.6	4848.7	4746.5	4699.6	4677.9	4681.2	4661.1
35°	5074.9	4987.8	4897.3	4756.6	4677.9	4574.0	4537.1	4527.1	4507.0	4485.2	4461.7
37.5°	4823.6	4721.4	4585.7	4501.9	4423.2	4381.3	4362.9	4347.8	4312.6	4274.1	4247.3
40°	4580.7	4396.4	4321.0	4238.9	4215.4	4197.0	4170.2	4133.3	4084.7	4078.0	4066.3
42.5°	4255.6	4123.3	4057.9	4041.2	4012.7	3980.9	3957.4	3917.2	3897.1	3910.5	3920.6
45°	3947.4	3880.3	3858.6	3838.5	3784.8	3739.6	3724.5	3711.1	3727.9	3801.6	3625.7
47.5°	3697.7	3670.9	3644.1	3610.6	3560.3	3526.8	3541.9	3555.3	3570.4	3029.2	2764.5
50°	3481.6	3444.7	3402.8	3366.0	3335.8	3332.5	3411.2	3175.0	2658.9	2645.5	2377.5
52.5°	3245.3	3190.1	3164.9	3143.1	3156.5	3206.8	2653.9	2462.9	2362.4	2052.4	1915.0
55°	2990.7	2942.1	2942.1	2962.2	2890.1	2342.3	2313.8	2000.5	1811.2	1757.5	1735.8
57.5°	2736.0	2731.0	2759.5	2523.2	2126.1	2039.0	1714.0	1645.3	1615.1	1608.4	1573.2
60°	2503.1	2550.0	2134.5	1963.6	1707.3	1539.7	1492.8	1484.4	1452.6	1440.9	1409.1
62.5°	2317.1	1921.7	1789.4	1461.0	1375.5	1353.8	1328.6	1316.9	1288.4	1137.6	333.4
65°	1673.8	1581.6	1283.4	1228.1	1221.4	1189.6	1179.5	1060.6	249.6	167.5	142.4
67.5°	1263.3	1120.9	1082.3	1072.3	1040.5	976.8	289.9	165.9	142.4	124.0	108.9
70°	970.1	945.0	916.5	893.0	263.0	164.2	142.4	120.6	103.9	92.1	83.8
72.5°	794.2	777.4	452.4	172.6	140.7	119.0	105.6	92.1	80.4	73.7	67.0
75°	621.6	172.6	142.4	119.0	102.2	87.1	77.1	68.7	62.0	57.0	51.9
77.5°	140.7	113.9	97.2	82.1	73.7	65.3	58.6	50.3	45.2	40.2	33.5
80°	87.1	75.4	63.7	58.6	50.3	41.9	36.9	33.5	26.8	25.1	21.8
82.5°	57.0	45.2	40.2	33.5	26.8	25.1	21.8	16.8	15.1	13.4	11.7
85°	25.1	21.8	18.4	15.1	11.7	10.1	8.4	6.7	6.7	6.7	6.7
87.5°	8.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.4	3.4
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	200°	205°	210°	215°	220°	225°	230°	235°	240°	245°	250°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5642.9	5673.1	5701.6	5693.2	5663.0	5616.1	5602.7	5584.3	5597.7	5626.2	5637.9
5°	5683.1	5666.4	5726.7	5815.5	5959.6	5973.0	6073.5	6097.0	6177.4	6227.6	6226.0
7.5°	5740.1	5978.0	6076.9	6184.1	6232.7	6220.9	6236.0	6224.3	6205.9	6197.5	6187.4
10°	6029.9	6210.9	6247.7	6247.7	6172.4	6070.2	6026.6	5951.2	5800.4	5803.8	5778.6
12.5°	6199.2	6262.8	6175.7	6102.0	5798.7	5681.4	5554.1	5493.8	5458.6	5405.0	5425.1
15°	6110.4	6019.9	5967.9	5730.0	5544.1	5333.0	5336.3	5299.4	5260.9	5264.3	5239.1
17.5°	5979.7	5907.6	5539.0	5374.8	5284.4	5202.3	5187.2	5138.6	5113.5	5105.1	5103.4
20°	5800.4	5540.7	5265.9	5225.7	5116.8	5023.0	5007.9	5023.0	5100.1	4962.7	4496.9
22.5°	5591.0	5217.3	5136.9	5023.0	4949.3	4912.4	5004.6	4585.7	3952.4	4029.5	3947.4
25°	5235.8	5073.3	4935.9	4848.7	4840.4	4614.2	3845.2	3764.7	3357.6	3139.8	2895.2
27.5°	4976.1	4905.7	4761.6	4746.5	4637.6	3773.1	3372.7	2930.4	2767.8	2742.7	2689.1
30°	4818.6	4718.1	4630.9	4250.6	3701.1	3037.6	2705.8	2643.9	2615.4	2585.2	2538.3
32.5°	4629.3	4533.8	4575.7	3573.7	2950.5	2615.4	2548.4	2503.1	2451.2	2431.1	2261.9
35°	4436.6	4393.0	3575.4	3004.1	2536.6	2456.2	2405.9	2359.0	1876.5	454.0	154.1
37.5°	4230.5	4220.5	3213.5	2493.1	2375.8	2300.4	2158.0	445.7	105.6	72.0	53.6
40°	4069.7	3215.2	2540.0	2337.3	2241.8	2122.8	298.2	73.7	46.9	28.5	18.4
42.5°	3962.4	2891.8	2273.6	2193.2	1985.4	219.5	75.4	31.8	18.4	15.1	11.7
45°	3054.3	2283.6	2124.5	2040.7	251.3	75.4	43.6	15.1	11.7	10.1	6.7
47.5°	2818.1	2074.2	1980.4	445.7	83.8	40.2	30.2	10.1	6.7	6.7	6.7
50°	2134.5	1916.7	1576.6	108.9	53.6	28.5	21.8	6.7	6.7	6.7	5.0
52.5°	1871.5	1769.3	169.2	72.0	41.9	21.8	13.4	5.0	5.0	5.0	5.0
55°	1710.6	1122.6	100.5	55.3	35.2	20.1	8.4	5.0	5.0	5.0	3.4
57.5°	1564.9	150.8	73.7	46.9	31.8	18.4	5.0	5.0	5.0	5.0	3.4
60°	1327.0	108.9	60.3	41.9	30.2	16.8	5.0	5.0	5.0	5.0	5.0
62.5°	172.6	85.4	51.9	36.9	21.8	13.4	3.4	5.0	5.0	5.0	5.0
65°	125.7	67.0	46.9	25.1	13.4	5.0	3.4	5.0	5.0	5.0	5.0
67.5°	97.2	55.3	35.2	21.8	11.7	3.4	3.4	5.0	5.0	5.0	5.0
70°	77.1	46.9	28.5	18.4	10.1	3.4	3.4	5.0	5.0	5.0	5.0
72.5°	60.3	33.5	20.1	10.1	6.7	3.4	3.4	5.0	5.0	5.0	5.0
75°	45.2	26.8	15.1	8.4	3.4	3.4	3.4	5.0	5.0	5.0	5.0
77.5°	30.2	16.8	11.7	6.7	6.7	6.7	8.4	8.4	5.0	5.0	5.0
80°	20.1	11.7	8.4	8.4	8.4	6.7	8.4	8.4	5.0	8.4	5.0
82.5°	10.1	8.4	8.4	6.7	6.7	5.0	6.7	6.7	6.7	6.7	5.0
85°	6.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	5.0
87.5°	3.4	3.4	3.4	3.4	5.0	5.0	5.0	5.0	6.7	6.7	5.0
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	255°	260°	265°	270°	275°	280°	285°	290°	295°	300°	305°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5622.8	5627.8	5614.4	5686.5	5649.6	5653.0	5668.0	5629.5	5637.9	5611.1	5592.6
5°	6232.7	6242.7	6252.8	6256.1	6262.8	6271.2	6261.2	6256.1	6246.1	6212.6	6177.4
7.5°	6137.2	6125.4	6120.4	6127.1	6138.8	6143.9	6135.5	6147.2	6190.8	6209.2	6220.9
10°	5634.5	5580.9	5617.8	5612.8	5570.9	5711.6	5673.1	5694.9	5709.9	5864.1	5957.9
12.5°	5394.9	5428.5	5364.8	5333.0	5374.8	5403.3	5431.8	5371.5	5455.3	5416.7	5540.7
15°	5193.9	5173.8	5167.1	5168.8	5160.4	5200.6	5210.6	5224.0	5235.8	5287.7	5307.8
17.5°	5103.4	5136.9	5150.3	5160.4	5143.6	5125.2	5106.8	5080.0	5088.3	5074.9	5113.5
20°	4183.6	4071.3	4064.6	4130.0	4057.9	4098.1	4195.3	4845.4	4823.6	5076.6	4991.2
22.5°	3491.6	3386.1	3295.6	3216.9	3329.1	3376.0	3557.0	3761.4	4093.1	4041.2	4401.4
25°	2851.6	2813.1	2789.6	2777.9	2786.3	2782.9	2823.1	2918.6	3069.4	3424.6	3883.7
27.5°	2667.3	2648.9	2640.5	2613.7	2633.8	2627.1	2658.9	2679.0	2724.3	2759.5	2908.6
30°	2521.6	2499.8	2484.7	2456.2	2476.3	2478.0	2488.0	2540.0	2558.4	2588.6	2635.5
32.5°	921.5	542.8	509.3	484.2	529.4	690.3	1211.3	2117.8	2416.0	2439.5	2493.1
35°	90.5	75.4	67.0	67.0	68.7	75.4	100.5	264.7	484.2	1871.5	2342.3
37.5°	35.2	30.2	25.1	23.5	25.1	28.5	38.5	50.3	68.7	142.4	635.0
40°	15.1	13.4	11.7	11.7	11.7	11.7	13.4	16.8	25.1	46.9	73.7
42.5°	10.1	8.4	8.4	8.4	8.4	8.4	8.4	8.4	11.7	15.1	30.2
45°	6.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	8.4	13.4
47.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7
50°	5.0	5.0	5.0	5.0	3.4	5.0	3.4	5.0	5.0	5.0	5.0
52.5°	5.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.0	5.0
55°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.0
57.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
60°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
62.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.0	5.0	3.4
65°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.0	3.4
67.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
70°	5.0	5.0	3.4	5.0	3.4	3.4	5.0	5.0	5.0	3.4	3.4
72.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.1	10.1	6.7
75°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.4	10.1	8.4
77.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.4	8.4	8.4
80°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.7
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.7
85°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
87.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	310°	315°	320°	325°	330°	335°	340°	341°	342°	343°	344°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5560.8	5559.1	5594.3	5621.1	5611.1	5621.1	5632.9	5634.5	5637.9	5624.5	5619.5
5°	6110.4	6058.4	5957.9	5885.9	5802.1	5649.6	5574.2	5582.6	5584.3	5579.2	5585.9
7.5°	6215.9	6210.9	6175.7	6160.6	6103.7	5994.8	5820.5	5790.4	5716.6	5669.7	5631.2
10°	5951.2	6071.8	6103.7	6157.3	6190.8	6170.7	6023.2	6001.5	5954.5	5900.9	5912.7
12.5°	5664.7	5763.5	5768.6	6060.1	6125.4	6132.1	6075.2	6105.3	6112.0	5991.4	5921.0
15°	5312.8	5359.8	5458.6	5730.0	5927.7	6051.7	6088.6	6105.3	6023.2	6018.2	5989.7
17.5°	5158.7	5188.9	5234.1	5386.6	5686.5	5869.1	6024.9	6013.2	6045.0	6021.6	5949.5
20°	4964.4	4989.5	5069.9	5147.0	5294.4	5537.4	5828.9	5850.7	5892.6	5887.5	5907.6
22.5°	4961.0	4872.2	4885.6	4945.9	5100.1	5317.9	5627.8	5699.9	5726.7	5745.1	5766.9
25°	3935.6	4641.0	4770.0	4808.5	4909.1	5036.4	5401.6	5428.5	5478.7	5560.8	5621.1
27.5°	3409.5	3888.7	4404.8	4672.8	4736.5	4842.0	5059.9	5100.1	5271.0	5291.1	5384.9
30°	2690.8	3061.0	3831.8	4476.8	4582.4	4656.1	4810.2	4890.6	4964.4	5044.8	5143.6
32.5°	2531.6	2590.2	3017.5	3704.4	4525.4	4470.1	4584.0	4632.6	4713.0	4783.4	4855.5
35°	2385.8	2426.0	2516.5	3034.2	3686.0	4317.6	4394.7	4426.5	4471.8	4525.4	4577.3
37.5°	2233.4	2293.7	2355.7	2494.7	3409.5	4197.0	4195.3	4232.2	4259.0	4304.2	4347.8
40°	405.5	2106.0	2206.6	2297.0	2643.9	3347.5	4007.7	4024.4	4042.9	4071.3	4116.6
42.5°	65.3	351.8	2067.5	2154.6	2253.5	2997.4	3922.2	3853.5	3841.8	3861.9	3902.1
45°	33.5	85.4	415.5	2012.2	2101.0	2390.9	3206.8	3734.6	3722.8	3684.3	3692.7
47.5°	25.1	53.6	102.2	695.3	1967.0	2052.4	2958.8	2927.0	3149.8	3577.1	3511.7
50°	21.8	36.9	60.3	142.4	1737.4	1889.9	2278.6	2662.3	2779.6	2794.6	3307.3
52.5°	20.1	25.1	43.6	92.1	365.2	1747.5	1853.0	1987.1	2184.8	2608.7	2598.6
55°	18.4	23.5	36.9	62.0	127.3	1574.9	1683.8	1709.0	1750.8	1953.6	2221.6
57.5°	10.1	21.8	35.2	53.6	95.5	288.2	1528.0	1548.1	1581.6	1590.0	1685.5
60°	5.0	20.1	31.8	46.9	70.4	134.0	1373.9	1397.3	1417.4	1420.8	1450.9
62.5°	3.4	18.4	26.8	43.6	58.6	95.5	325.0	663.5	1261.6	1261.6	1296.8
65°	3.4	13.4	16.8	28.5	53.6	78.7	137.4	159.2	310.0	762.3	1137.6
67.5°	3.4	5.0	15.1	23.5	40.2	60.3	100.5	117.3	140.7	160.8	298.2
70°	3.4	3.4	13.4	15.1	25.1	45.2	72.0	82.1	95.5	108.9	125.7
72.5°	3.4	3.4	11.7	11.7	16.8	30.2	55.3	60.3	68.7	77.1	88.8
75°	8.4	6.7	10.1	10.1	11.7	23.5	41.9	46.9	50.3	57.0	65.3
77.5°	8.4	8.4	8.4	8.4	8.4	15.1	26.8	30.2	35.2	38.5	45.2
80°	6.7	6.7	6.7	8.4	8.4	10.1	16.8	18.4	20.1	25.1	26.8
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	10.1	11.7	15.1
85°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.7	6.7	6.7	6.7
87.5°	5.0	5.0	5.0	3.4	3.4	5.0	5.0	5.0	5.0	5.0	5.0
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	345°	346°	347°	348°	349°	350°	351°	352°	353°	354°	355°
0°	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5617.8	5607.7	5599.3	5604.4	5589.3	5582.6	5587.6	5589.3	5592.6	5601.0	5602.7
5°	5602.7	5599.3	5614.4	5622.8	5619.5	5622.8	5622.8	5616.1	5606.1	5612.8	5597.7
7.5°	5592.6	5570.9	5554.1	5557.5	5540.7	5560.8	5579.2	5606.1	5614.4	5614.4	5597.7
10°	5765.2	5741.8	5647.9	5584.3	5542.4	5505.5	5592.6	5503.8	5545.7	5386.6	5569.2
12.5°	5907.6	5939.5	5897.6	5723.3	5693.2	5582.6	5646.3	5537.4	5505.5	5322.9	5381.5
15°	5964.6	5904.3	5890.9	5842.3	5776.9	5745.1	5574.2	5555.8	5503.8	5524.0	5446.9
17.5°	5914.3	5944.5	5904.3	5872.4	5805.4	5730.0	5627.8	5537.4	5465.3	5304.5	5440.2
20°	5865.7	5906.0	5785.3	5805.4	5812.1	5725.0	5671.4	5596.0	5505.5	5354.7	5237.5
22.5°	5785.3	5756.8	5766.9	5736.7	5711.6	5723.3	5649.6	5597.7	5445.2	5376.5	5217.3
25°	5654.6	5644.6	5671.4	5668.0	5607.7	5587.6	5550.8	5495.5	5435.2	5324.6	5193.9
27.5°	5441.9	5493.8	5540.7	5562.5	5530.7	5477.0	5456.9	5425.1	5383.2	5271.0	5173.8
30°	5217.3	5276.0	5329.6	5376.5	5405.0	5381.5	5363.1	5344.7	5281.0	5207.3	5098.4
32.5°	4961.0	5038.1	5111.8	5168.8	5230.8	5249.2	5235.8	5220.7	5167.1	5100.1	5012.9
35°	4664.4	4770.0	4877.2	4979.4	5006.2	5049.8	5093.4	5068.2	5039.7	4972.7	4892.3
37.5°	4413.1	4488.5	4565.6	4694.6	4788.4	4843.7	4920.8	4930.8	4882.3	4850.4	4744.9
40°	4153.4	4222.1	4334.4	4409.8	4538.8	4602.5	4684.6	4721.4	4709.7	4691.3	4599.1
42.5°	3949.0	3982.5	4056.3	4123.3	4250.6	4381.3	4453.3	4493.6	4535.4	4520.4	4473.4
45°	3731.2	3761.4	3786.5	3845.2	3969.1	4084.7	4173.5	4233.9	4309.3	4344.4	4287.5
47.5°	3515.1	3523.5	3553.6	3602.2	3675.9	3764.7	3913.8	4004.3	4074.7	4143.4	4106.5
50°	3349.2	3319.1	3324.1	3354.2	3414.6	3501.7	3608.9	3736.3	3816.7	3900.4	3908.8
52.5°	2927.0	3171.6	3113.0	3129.7	3161.6	3203.5	3315.7	3441.4	3540.2	3612.3	3684.3
55°	2456.2	2504.8	2975.6	2908.6	2928.7	2965.5	3017.5	3143.1	3238.6	3339.2	3439.7
57.5°	1905.0	2266.9	2285.3	2720.9	2710.9	2714.2	2757.8	2829.8	2925.3	3051.0	3136.4
60°	1481.1	1633.6	1930.1	2080.9	2462.9	2476.3	2501.4	2543.3	2625.4	2744.4	2880.1
62.5°	1306.9	1327.0	1432.5	1658.7	1906.7	2206.6	2260.2	2266.9	2303.7	2422.7	2580.2
65°	1147.7	1161.1	1192.9	1216.4	1424.1	1714.0	1972.0	2013.9	2037.3	2107.7	2241.8
67.5°	790.8	1000.2	1028.7	1045.5	1065.6	1199.6	1519.6	1732.4	1759.2	1821.2	1938.5
70°	152.5	316.7	866.2	884.6	894.7	924.8	976.8	1315.2	1492.8	1551.5	1605.1
72.5°	103.9	122.3	147.4	348.5	737.2	754.0	765.7	809.2	1109.1	1280.0	1308.5
75°	75.4	83.8	98.9	122.3	150.8	490.9	608.2	630.0	651.7	899.7	1043.8
77.5°	53.6	60.3	67.0	78.7	92.1	119.0	170.9	470.8	492.6	504.3	712.1
80°	30.2	36.9	45.2	51.9	58.6	67.0	87.1	108.9	242.9	355.2	373.6
82.5°	16.8	20.1	23.5	28.5	31.8	40.2	48.6	58.6	77.1	113.9	241.3
85°	8.4	8.4	8.4	11.7	13.4	18.4	21.8	25.1	35.2	48.6	67.0
87.5°	5.0	5.0	6.7	6.7	6.7	8.4	8.4	8.4	10.1	15.1	21.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	356°	357°	358°	359°	360°
0°	5582.6	5582.6	5582.6	5582.6	5582.6
2.5°	5604.4	5599.3	5599.3	5619.5	5614.4
5°	5594.3	5589.3	5587.6	5609.4	5599.3
7.5°	5585.9	5567.5	5562.5	5582.6	5574.2
10°	5552.4	5539.0	5547.4	5540.7	5537.4
12.5°	5495.5	5487.1	5451.9	5455.3	5483.7
15°	5393.3	5426.8	5366.5	5420.1	5431.8
17.5°	5205.6	5281.0	5339.7	5371.5	5376.5
20°	5289.4	5314.5	5284.4	5286.0	5306.1
22.5°	5180.5	5192.2	5200.6	5190.5	5234.1
25°	5006.2	4961.0	5058.2	5078.3	5148.7
27.5°	4952.6	4915.8	4961.0	4957.7	5016.3
30°	4909.1	4790.1	4810.2	4842.0	4914.1
32.5°	4847.1	4659.4	4639.3	4709.7	4790.1
35°	4738.2	4560.6	4513.7	4558.9	4679.5
37.5°	4646.0	4423.2	4329.4	4389.7	4547.2
40°	4508.6	4316.0	4170.2	4223.8	4409.8
42.5°	4344.4	4223.8	3999.3	4036.2	4248.9
45°	4178.6	4071.3	3833.4	3851.9	4104.8
47.5°	4009.3	3910.5	3660.9	3664.2	3920.6
50°	3843.5	3712.8	3506.7	3448.1	3724.5
52.5°	3627.3	3506.7	3350.9	3255.4	3538.5
55°	3422.9	3287.2	3173.3	3025.9	3327.4
57.5°	3223.6	3072.8	2995.7	2806.4	3087.9
60°	2950.5	2878.4	2764.5	2583.5	2871.7
62.5°	2670.7	2647.2	2531.6	2344.0	2605.3
65°	2344.0	2399.2	2280.3	2119.4	2328.9
67.5°	2035.7	2134.5	2003.8	1905.0	2062.5
70°	1707.3	1821.2	1747.5	1712.3	1779.3
72.5°	1383.9	1494.5	1501.2	1476.1	1497.9
75°	1068.9	1191.2	1258.3	1219.7	1224.8
77.5°	810.9	869.6	943.3	973.4	966.7
80°	501.0	603.2	663.5	725.5	703.7
82.5°	253.0	338.4	412.2	479.2	447.3
85°	105.6	135.7	189.3	249.6	239.6
87.5°	31.8	53.6	57.0	80.4	75.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)