

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-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-LD5-48HL-RM-UNV-L930-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
METALIC FINISH REFLECTOR
Light Source: -
Ballast/Driver: -

Summary

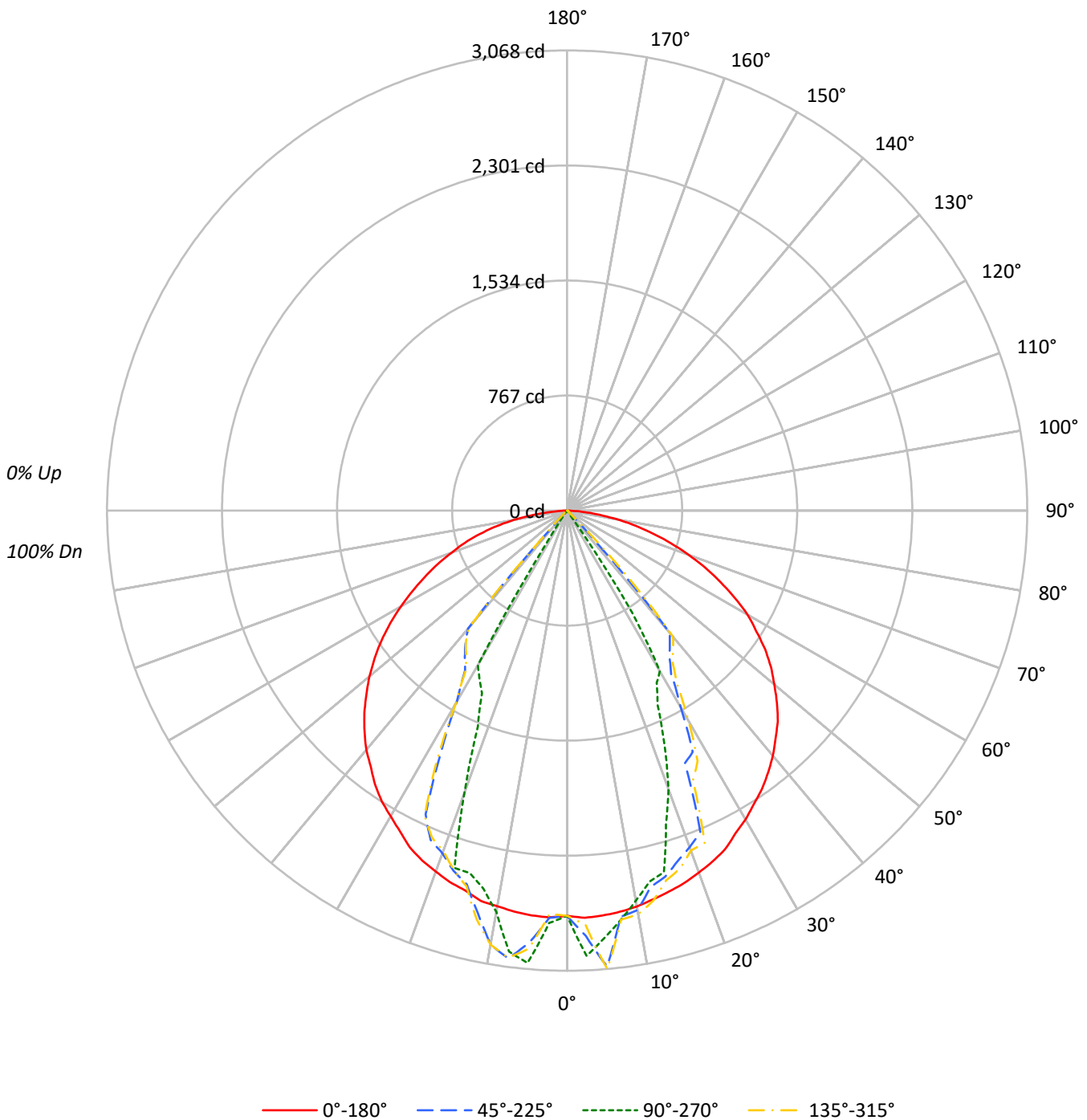
Lumens per Lamp: N/A
Luminaire Lumens: 3841.9 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 0.81 / 0.97
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

Input Watts (W): 37
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	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°	21835	21835	21835	21835
5°	21924	22457	21918	23782
10°	21872	20321	21858	20908
15°	21812	18967	21758	19017
20°	21837	14940	21775	15124
25°	21901	10812	21793	10202
30°	21800	9484	21570	9117
35°	21865	209	21544	253
40°	21939	46	21415	46
45°	22018	27	21190	20
50°	21850	21	20847	21
55°	21721	15	20387	15
60°	21310	16	19645	16
65°	20200	25	18761	17
70°	18739	28	17838	28
75°	16576	31	16847	31
80°	13464	36	14231	36
85°	7925	42	8089	42



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	7.1
10°-20°	739.4	19.2
20°-30°	940.9	24.5
30°-40°	794.8	20.7
40°-50°	519.6	13.5
50°-60°	327.4	8.5
60°-70°	174.3	4.5
70°-80°	63.5	1.7
80°-90°	10.9	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°	1951.4	50.8
0°-40°	2746.2	71.5
0°-60°	3593.2	93.5
0°-90°	3841.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3841.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2702	2702	2702	2702	2702	
5°	2710	2859	2709	3028	2710	258
15°	2629	2495	2622	2502	2629	743
25°	2492	1425	2480	1344	2492	1146
35°	2265	27	2232	32	2265	1417
45°	1987	3	1912	2	1987	1528
55°	1610	2	1512	2	1610	1435
65°	1127	2	1047	2	1127	1116
75°	593	2	602	2	593	629
85°	116	2	118	2	116	147
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°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2717.4	2719.0	2719.8	2721.4	2723.9	2724.7	2726.3	2724.7	2724.7	2724.7	2724.7
5°	2710.1	2713.3	2715.8	2719.0	2724.7	2725.5	2732.0	2732.8	2736.0	2742.5	2747.4
7.5°	2697.9	2701.2	2706.0	2714.1	2722.3	2731.2	2742.5	2754.7	2771.7	2787.9	2808.2
10°	2680.1	2684.1	2689.8	2697.1	2736.9	2742.5	2767.7	2802.5	2812.3	2863.4	2901.5
12.5°	2654.1	2667.9	2682.5	2689.0	2727.1	2787.1	2871.5	2854.4	2835.8	3002.8	3000.4
15°	2629.0	2647.7	2640.4	2693.1	2727.9	2832.5	2796.9	2873.1	3012.6	2978.5	2980.1
17.5°	2602.2	2606.3	2646.8	2690.6	2753.1	2806.6	2850.4	2955.0	2982.6	2985.0	2955.0
20°	2568.2	2587.6	2646.8	2686.6	2792.0	2817.1	2912.0	2965.5	2954.2	2926.6	2875.5
22.5°	2533.3	2592.5	2652.5	2708.5	2782.3	2849.6	2896.6	2921.7	2862.5	2753.9	2695.5
25°	2492.0	2526.8	2605.5	2687.4	2779.8	2818.8	2846.3	2805.8	2728.7	2631.4	2533.3
27.5°	2427.9	2483.8	2584.4	2676.8	2760.4	2807.4	2762.8	2665.5	2541.4	2477.4	2432.8
30°	2378.4	2451.4	2534.1	2623.3	2710.1	2737.7	2624.1	2513.0	2427.9	2363.8	2354.1
32.5°	2318.4	2422.2	2500.9	2586.0	2659.0	2622.5	2512.2	2368.7	2298.1	2273.8	2283.5
35°	2264.9	2343.6	2446.5	2530.1	2582.8	2500.9	2326.5	2237.3	2203.3	2217.1	2199.2
37.5°	2200.8	2304.6	2399.5	2471.7	2453.8	2330.6	2183.0	2126.2	2130.3	2118.9	2084.9
40°	2134.3	2233.3	2332.2	2400.3	2337.9	2149.7	2051.6	2039.5	2041.9	2005.4	1956.7
42.5°	2056.5	2146.5	2245.4	2307.1	2172.5	2025.7	1959.2	1960.8	1939.7	1888.6	1862.7
45°	1986.8	2069.5	2172.5	2178.1	2012.7	1890.3	1870.8	1849.7	1802.7	1785.6	1766.2
47.5°	1897.6	1989.2	2074.3	2043.5	1856.2	1780.0	1765.4	1719.1	1695.6	1682.7	1666.4
50°	1802.7	1895.1	1973.0	1885.4	1708.6	1690.8	1642.9	1606.4	1590.2	1576.4	1561.8
52.5°	1712.7	1788.9	1868.4	1717.5	1595.1	1578.0	1523.7	1502.6	1486.4	1471.0	1467.8
55°	1610.5	1677.8	1732.1	1557.8	1486.4	1446.7	1407.8	1393.2	1377.8	1370.5	1382.6
57.5°	1494.5	1570.7	1562.6	1400.5	1368.8	1311.3	1296.7	1286.9	1275.6	1280.4	1179.1
60°	1389.9	1448.3	1408.6	1285.3	1231.8	1192.9	1179.9	1173.4	1179.9	1081.0	950.4
62.5°	1261.0	1326.7	1246.4	1150.7	1093.9	1075.3	1063.9	1072.8	978.0	869.3	837.7
65°	1127.2	1198.5	1080.1	1006.4	970.7	954.5	953.6	878.2	785.0	742.8	742.8
67.5°	998.2	1072.0	919.6	858.0	844.2	845.8	798.8	684.4	658.5	630.1	548.2
70°	861.2	926.1	759.8	722.5	714.4	708.7	594.4	563.6	532.8	457.4	450.9
72.5°	725.0	756.6	610.6	601.7	600.1	498.7	476.0	423.3	387.6	378.7	374.6
75°	592.8	583.1	482.5	490.6	413.6	377.9	341.4	310.6	305.7	302.5	75.4
77.5°	467.9	419.2	380.3	330.9	296.0	251.4	244.1	239.2	157.3	56.8	46.2
80°	340.6	271.7	253.0	214.9	183.3	176.0	180.0	55.1	43.8	36.5	31.6
82.5°	216.5	173.5	141.9	124.1	120.8	52.7	38.9	31.6	27.6	23.5	19.5
85°	116.0	77.0	71.4	60.0	35.7	24.3	20.3	15.4	13.0	10.5	9.7
87.5°	36.5	30.8	25.1	20.3	12.2	8.1	6.5	5.7	4.9	4.1	4.1
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°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2723.1	2724.7	2723.9	2726.3	2726.3	2729.6	2732.0	2734.4	2739.3	2741.7	2760.4
5°	2757.9	2762.0	2774.2	2785.5	2799.3	2803.3	2826.9	2832.5	2860.1	2863.4	2954.2
7.5°	2835.8	2851.2	2880.4	2909.6	2938.8	2957.4	2989.9	3010.1	3032.0	3051.5	3123.7
10°	2929.8	2955.8	2984.2	3013.4	3030.4	3066.1	3085.5	3088.8	3083.1	3051.5	2934.7
12.5°	3022.3	3048.2	3036.1	3041.8	3062.0	2998.8	3007.7	2962.3	2993.9	2837.4	2721.4
15°	3009.3	3007.7	2977.7	2880.4	2896.6	2775.8	2727.1	2689.8	2719.8	2703.6	2685.8
17.5°	2970.4	2896.6	2844.7	2727.9	2678.5	2644.4	2645.2	2646.0	2631.4	2646.8	2601.4
20°	2805.8	2723.1	2646.0	2604.7	2590.1	2565.7	2577.9	2565.7	2566.6	2571.4	2501.7
22.5°	2586.8	2561.7	2517.1	2530.1	2525.2	2547.1	2530.9	2505.7	2513.8	2477.4	2424.6
25°	2498.4	2469.2	2467.6	2472.5	2465.2	2455.5	2440.9	2402.8	2400.3	2389.0	2364.6
27.5°	2409.2	2410.9	2415.7	2401.1	2375.2	2355.7	2333.8	2315.2	2322.5	2309.5	2276.2
30°	2347.6	2346.8	2317.6	2304.6	2256.8	2257.6	2251.9	2240.6	2233.3	2234.1	2213.0
32.5°	2260.0	2234.9	2201.6	2185.4	2181.4	2166.8	2155.4	2157.9	2163.5	2143.3	2165.2
35°	2170.0	2118.1	2113.3	2099.5	2086.5	2076.8	2080.8	2064.6	2063.8	2061.4	1883.0
37.5°	2049.2	2024.1	2021.6	2007.0	1998.1	1995.7	1980.3	1982.7	1990.0	2003.0	1605.6
40°	1949.4	1926.7	1921.1	1920.3	1900.8	1899.2	1903.2	1918.6	1929.2	1848.1	1530.2
42.5°	1842.4	1844.0	1826.2	1814.8	1817.3	1824.6	1844.0	1790.5	1551.3	1478.3	1398.8
45°	1750.8	1742.7	1732.9	1729.7	1750.8	1736.2	1522.1	1404.5	1376.1	1372.9	1149.9
47.5°	1655.1	1652.7	1648.6	1651.0	1531.0	1364.8	1316.1	1300.7	1305.6	1302.3	987.7
50°	1558.6	1561.8	1561.8	1364.0	1252.1	1224.5	1228.5	1242.3	1156.4	1079.3	920.4
52.5°	1475.1	1449.9	1242.3	1171.0	1145.8	1158.0	1128.8	1020.9	943.1	897.7	851.5
55°	1320.2	1135.3	1089.1	1077.7	1086.6	978.8	912.3	842.5	822.3	817.4	790.6
57.5°	1038.8	1001.5	1005.5	960.1	857.1	796.3	769.6	759.8	750.9	744.4	64.9
60°	918.8	929.3	850.7	753.3	712.0	703.9	697.4	688.5	686.8	675.5	41.4
62.5°	840.9	739.6	671.4	647.1	637.4	634.9	622.8	618.7	525.5	72.2	30.8
65°	634.1	592.8	579.8	574.1	563.6	563.6	467.9	73.8	60.0	51.9	27.6
67.5°	517.4	514.1	507.6	500.3	340.6	71.4	62.4	54.3	47.0	41.4	24.3
70°	437.9	436.3	397.4	73.0	60.8	53.5	47.0	42.2	38.9	34.9	21.9
72.5°	359.2	73.0	61.6	53.5	46.2	42.2	38.1	34.1	30.8	28.4	17.8
75°	56.0	49.5	43.8	39.7	36.5	32.4	29.2	26.8	25.9	22.7	12.2
77.5°	40.5	34.9	31.6	28.4	25.1	22.7	19.5	17.0	15.4	13.0	8.9
80°	28.4	25.1	22.7	18.7	16.2	13.8	12.2	10.5	9.7	8.1	4.1
82.5°	16.2	13.8	12.2	9.7	8.9	7.3	6.5	5.7	5.7	4.1	4.1
85°	7.3	7.3	5.7	4.9	4.1	4.1	4.1	3.2	3.2	2.4	2.4
87.5°	3.2	3.2	3.2	3.2	3.2	2.4	2.4	2.4	2.4	2.4	1.6
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°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2786.3	2796.9	2817.1	2838.2	2814.7	2899.0	2892.5	2920.9	2936.3	2943.6	2960.7
5°	3034.5	3081.5	3096.9	3050.7	3023.9	2996.3	2933.9	2886.9	2892.5	2877.1	2821.2
7.5°	3029.6	2929.0	2793.6	2732.0	2727.1	2719.8	2739.3	2750.6	2752.3	2751.4	2749.8
10°	2773.3	2721.4	2712.5	2704.4	2707.7	2677.7	2663.9	2624.9	2646.0	2634.7	2638.7
12.5°	2695.5	2683.3	2635.5	2569.0	2608.7	2578.7	2561.7	2573.0	2560.1	2547.9	2543.9
15°	2649.3	2570.6	2543.9	2527.6	2516.3	2509.8	2515.5	2502.5	2498.4	2496.0	2501.7
17.5°	2553.6	2522.0	2492.8	2449.8	2450.6	2448.2	2464.4	2488.7	2490.3	2365.5	2252.7
20°	2478.2	2452.2	2414.9	2388.2	2424.6	2359.8	2109.2	1990.0	1971.3	1971.3	1974.6
22.5°	2418.2	2360.6	2363.0	2320.8	1979.5	1909.7	1911.3	1918.6	1885.4	1771.9	1759.7
25°	2336.3	2327.3	2149.7	1857.8	1860.2	1805.9	1722.4	1604.8	1477.5	1477.5	1456.4
27.5°	2274.6	2085.7	1826.2	1814.0	1631.6	1516.4	1445.1	1337.2	1322.6	1308.8	1310.4
30°	2221.9	1764.6	1771.0	1516.4	1381.8	1286.1	1280.4	1262.6	1253.7	1251.2	1242.3
32.5°	1756.5	1718.3	1482.4	1291.0	1238.3	1222.9	1215.6	1195.3	1194.5	1179.1	1072.0
35°	1647.0	1508.3	1240.7	1188.8	1173.4	1158.8	1146.6	769.6	90.8	36.5	31.6
37.5°	1522.1	1260.2	1147.5	1123.9	1109.3	819.8	81.9	28.4	20.3	14.6	13.0
40°	1290.2	1125.6	1089.9	1063.9	438.7	28.4	17.8	13.8	8.1	7.3	6.5
42.5°	1088.3	1060.7	1022.6	311.4	32.4	13.8	8.9	6.5	5.7	5.7	4.9
45°	1018.5	994.2	411.9	30.8	20.3	6.5	5.7	5.7	4.9	3.2	3.2
47.5°	953.6	839.3	37.3	19.5	13.0	5.7	4.9	3.2	3.2	3.2	2.4
50°	884.7	46.2	25.9	14.6	8.1	3.2	3.2	3.2	3.2	2.4	2.4
52.5°	165.4	32.4	21.1	13.0	4.1	3.2	3.2	3.2	2.4	2.4	2.4
55°	38.9	25.9	19.5	11.4	3.2	3.2	3.2	2.4	2.4	2.4	1.6
57.5°	29.2	19.5	15.4	10.5	3.2	2.4	2.4	2.4	2.4	2.4	1.6
60°	24.3	13.8	12.2	9.7	2.4	2.4	2.4	2.4	2.4	2.4	1.6
62.5°	17.0	11.4	8.9	7.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
65°	13.8	8.9	7.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
67.5°	12.2	7.3	4.9	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70°	9.7	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
72.5°	8.1	2.4	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
75°	8.1	4.1	1.6	1.6	2.4	2.4	3.2	3.2	2.4	2.4	2.4
77.5°	5.7	4.1	1.6	1.6	2.4	2.4	3.2	3.2	2.4	2.4	2.4
80°	3.2	4.1	1.6	2.4	2.4	4.9	5.7	3.2	2.4	2.4	2.4
82.5°	3.2	4.1	4.9	4.9	2.4	4.1	4.9	4.1	3.2	2.4	2.4
85°	3.2	2.4	3.2	4.1	2.4	4.1	4.1	3.2	3.2	2.4	2.4
87.5°	1.6	2.4	2.4	3.2	3.2	3.2	4.1	3.2	3.2	3.2	2.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2968.8	2972.0	2920.9	2903.1	2918.5	2915.3	2901.5	2850.4	2844.7	2810.6	2761.2
5°	2837.4	2859.3	2832.5	2878.8	2856.9	2878.8	2945.3	2976.1	3026.3	3057.2	3068.5
7.5°	2745.8	2750.6	2750.6	2754.7	2758.7	2759.6	2754.7	2751.4	2737.7	2720.6	2751.4
10°	2634.7	2640.4	2650.1	2648.5	2647.7	2664.7	2668.7	2703.6	2702.0	2708.5	2732.0
12.5°	2577.1	2533.3	2573.0	2562.5	2577.1	2554.4	2596.6	2589.3	2591.7	2611.2	2661.4
15°	2481.4	2495.2	2504.9	2504.9	2510.6	2505.7	2500.9	2534.1	2554.4	2555.2	2552.0
17.5°	2297.3	2192.7	2299.8	2272.2	2492.0	2497.6	2479.0	2463.6	2463.6	2475.7	2501.7
20°	1972.2	1974.6	1975.4	1985.9	1998.9	1998.1	1998.9	2318.4	2470.1	2435.2	2411.7
22.5°	1728.9	1698.9	1754.8	1750.8	1820.5	1897.6	1971.3	1964.0	1968.9	2194.3	2397.1
25°	1385.9	1424.8	1393.2	1406.9	1485.6	1577.2	1634.0	1782.4	1943.8	1932.4	1985.1
27.5°	1304.8	1294.2	1308.8	1308.8	1319.4	1331.5	1363.2	1446.7	1590.2	1741.0	1883.8
30°	1227.7	1236.7	1238.3	1252.9	1261.0	1269.1	1274.0	1305.6	1338.0	1442.6	1618.6
32.5°	922.0	808.5	1063.9	1132.9	1191.2	1205.0	1214.8	1227.7	1251.2	1266.7	1355.0
35°	26.8	26.8	28.4	32.4	41.4	279.0	1062.3	1171.0	1186.4	1205.8	1222.1
37.5°	13.0	9.7	11.4	12.2	14.6	20.3	29.2	90.8	1011.2	1143.4	1161.2
40°	5.7	5.7	5.7	5.7	6.5	8.1	12.2	20.3	30.8	813.4	1097.2
42.5°	4.9	4.9	4.9	4.9	4.9	4.9	5.7	7.3	14.6	34.9	575.8
45°	3.2	3.2	2.4	3.2	3.2	4.1	4.9	4.9	6.5	21.9	39.7
47.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.1	4.9	14.6	21.1
50°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	11.4	14.6
52.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.9	13.0
55°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	3.2	11.4
57.5°	1.6	1.6	1.6	1.6	1.6	2.4	1.6	1.6	2.4	2.4	10.5
60°	1.6	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	9.7
62.5°	2.4	2.4	1.6	2.4	1.6	1.6	2.4	2.4	2.4	2.4	6.5
65°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	2.4
67.5°	2.4	2.4	2.4	2.4	1.6	2.4	1.6	2.4	2.4	1.6	1.6
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6
72.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6
75°	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	1.6	1.6	1.6
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	4.1	4.9	4.1	4.1	1.6
80°	2.4	2.4	2.4	2.4	2.4	2.4	4.1	4.1	4.1	4.1	5.7
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2	4.1
85°	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	2.4	3.2
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	2.4	2.4	2.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	140°	145°	150°	155°	160°	161°	162°	163°	164°	165°	166°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2765.2	2737.7	2728.7	2710.1	2708.5	2710.1	2706.0	2700.4	2703.6	2697.9	2693.1
5°	3075.0	3001.2	2953.4	2889.3	2800.9	2781.5	2776.6	2749.0	2739.3	2736.0	2723.1
7.5°	2824.4	2959.0	3040.1	3067.7	2963.9	2939.6	2911.2	2888.5	2866.6	2825.2	2800.1
10°	2713.3	2719.8	2797.7	2888.5	3036.1	3056.4	3071.8	3022.3	3008.5	2903.1	2880.4
12.5°	2687.4	2688.2	2697.1	2752.3	2868.2	2881.2	2935.5	2964.7	3000.4	3020.7	3004.5
15°	2569.0	2634.7	2683.3	2688.2	2698.7	2721.4	2737.7	2839.0	2882.0	2997.2	2990.7
17.5°	2513.8	2534.9	2605.5	2663.1	2653.3	2645.2	2658.2	2672.0	2713.3	2828.5	2826.9
20°	2422.2	2489.5	2527.6	2587.6	2642.0	2644.4	2629.8	2621.7	2605.5	2624.1	2641.2
22.5°	2383.3	2393.8	2465.2	2507.4	2569.0	2590.9	2594.1	2594.9	2586.0	2576.3	2571.4
25°	2379.2	2346.0	2382.5	2435.2	2480.6	2504.1	2530.9	2539.8	2536.6	2536.6	2531.7
27.5°	1947.0	2335.4	2316.0	2350.9	2406.0	2422.2	2436.0	2463.6	2480.6	2492.8	2498.4
30°	1854.6	1924.3	2264.1	2269.0	2324.9	2323.3	2338.7	2361.4	2383.3	2411.7	2419.0
32.5°	1640.5	1811.6	2072.7	2187.0	2245.4	2251.1	2259.2	2265.7	2286.0	2317.6	2345.2
35°	1314.5	1650.2	1775.9	2148.1	2158.7	2170.0	2174.9	2190.3	2196.8	2209.8	2234.1
37.5°	1189.6	1364.0	1703.7	1857.8	2058.9	2068.7	2094.6	2101.1	2111.6	2122.2	2140.8
40°	1117.4	1165.3	1418.3	1659.1	1978.6	1985.1	1994.0	2010.3	2011.1	2023.2	2040.3
42.5°	1059.9	1090.7	1164.5	1584.5	1921.9	1921.1	1900.0	1910.5	1915.4	1928.4	1951.9
45°	846.6	1023.4	1070.4	1294.2	1530.2	1640.5	1852.1	1817.3	1816.5	1821.3	1846.5
47.5°	43.0	962.6	995.8	1068.0	1445.1	1449.1	1476.7	1708.6	1744.3	1732.9	1735.4
50°	29.2	66.5	927.7	960.9	1245.6	1346.1	1366.4	1376.9	1510.7	1660.0	1635.6
52.5°	22.7	38.1	568.5	892.0	1012.0	1085.8	1216.4	1291.0	1299.1	1359.1	1562.6
55°	20.3	29.2	61.6	823.1	860.4	876.6	952.8	1083.4	1188.8	1220.4	1222.9
57.5°	17.8	26.8	42.2	372.2	782.5	785.8	798.8	844.2	939.0	1025.8	1123.9
60°	16.2	23.5	33.2	64.1	711.2	719.3	721.7	733.9	745.2	804.4	917.1
62.5°	9.7	18.7	29.2	46.2	562.8	646.3	645.5	653.6	664.1	670.6	693.3
65°	8.1	14.6	25.1	38.9	68.9	86.0	522.2	580.6	587.1	596.0	600.1
67.5°	7.3	13.0	18.7	30.8	51.9	59.2	68.1	84.3	460.6	519.0	527.1
70°	6.5	8.9	15.4	25.9	42.2	45.4	51.1	58.4	68.9	85.1	416.8
72.5°	4.1	6.5	10.5	18.7	32.4	36.5	39.7	44.6	49.5	59.2	68.1
75°	1.6	4.9	8.9	13.8	25.1	27.6	30.0	33.2	37.3	43.8	48.7
77.5°	1.6	4.1	7.3	9.7	16.2	18.7	21.9	24.3	27.6	30.8	35.7
80°	5.7	3.2	4.9	7.3	11.4	12.2	13.8	15.4	17.8	20.3	23.5
82.5°	4.1	4.9	5.7	4.9	5.7	7.3	8.1	9.7	10.5	12.2	13.0
85°	3.2	3.2	4.1	4.1	4.1	4.1	4.1	4.1	4.9	5.7	7.3
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	167°	168°	169°	170°	171°	172°	173°	174°	175°	176°	177°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2693.1	2691.4	2686.6	2686.6	2685.8	2689.0	2691.4	2693.9	2693.1	2697.9	2693.1
5°	2713.3	2709.3	2702.0	2695.5	2693.1	2694.7	2692.3	2694.7	2691.4	2695.5	2688.2
7.5°	2769.3	2755.5	2727.1	2715.8	2701.2	2700.4	2693.1	2691.4	2686.6	2686.6	2677.7
10°	2868.2	2801.7	2793.6	2759.6	2747.4	2688.2	2701.2	2679.3	2676.8	2666.3	2662.2
12.5°	2949.3	2897.4	2882.0	2852.0	2817.9	2697.9	2724.7	2677.7	2675.2	2654.1	2632.2
15°	2950.9	2980.9	2938.8	2856.1	2848.8	2766.0	2711.7	2695.5	2674.4	2611.2	2621.7
17.5°	2856.1	2925.0	2945.3	2927.4	2875.5	2819.6	2743.3	2710.9	2647.7	2619.3	2599.8
20°	2702.0	2771.7	2858.5	2864.2	2896.6	2856.9	2757.1	2704.4	2628.2	2578.7	2562.5
22.5°	2579.5	2630.6	2730.4	2776.6	2816.3	2830.1	2766.9	2689.0	2594.1	2546.3	2536.6
25°	2514.7	2526.0	2556.0	2610.3	2697.9	2761.2	2770.1	2687.4	2637.9	2533.3	2478.2
27.5°	2491.1	2481.4	2469.2	2496.8	2562.5	2639.5	2690.6	2704.4	2581.2	2481.4	2426.3
30°	2431.1	2436.8	2418.2	2408.4	2451.4	2530.9	2621.7	2644.4	2549.5	2446.5	2383.3
32.5°	2357.3	2367.1	2370.3	2353.3	2344.4	2399.5	2497.6	2552.0	2547.1	2397.1	2326.5
35°	2264.9	2292.5	2299.8	2300.6	2286.0	2277.1	2333.8	2446.5	2489.5	2374.4	2272.2
37.5°	2167.6	2175.7	2215.4	2226.0	2226.0	2199.2	2241.4	2331.4	2391.4	2323.3	2205.7
40°	2045.9	2071.9	2109.2	2127.9	2146.5	2148.9	2125.4	2188.7	2287.6	2270.6	2143.3
42.5°	1957.6	1974.6	1997.3	2022.4	2060.5	2070.3	2045.9	2057.3	2160.3	2204.9	2062.2
45°	1854.6	1877.3	1883.8	1911.3	1951.1	1979.5	1978.6	1955.1	2037.8	2093.0	2003.0
47.5°	1749.2	1771.0	1782.4	1796.2	1825.4	1861.9	1882.1	1871.6	1887.8	1995.7	1924.3
50°	1640.5	1652.7	1675.4	1690.8	1710.2	1731.3	1780.0	1789.7	1767.0	1852.9	1837.5
52.5°	1537.5	1541.6	1557.0	1572.4	1598.3	1613.7	1652.7	1681.8	1680.2	1705.4	1741.0
55°	1457.2	1439.4	1442.6	1454.8	1471.8	1495.3	1517.2	1562.6	1578.0	1582.9	1639.7
57.5°	1138.5	1321.8	1338.0	1337.2	1357.5	1368.0	1388.3	1418.3	1473.4	1461.3	1524.5
60°	1034.7	1055.0	1208.3	1226.1	1233.4	1243.1	1267.5	1295.0	1335.6	1361.5	1389.1
62.5°	789.0	912.3	958.5	1093.9	1115.0	1120.7	1136.9	1149.9	1192.1	1251.2	1239.9
65°	610.6	663.3	804.4	859.6	974.7	989.3	1012.0	1025.8	1038.0	1106.1	1109.3
67.5°	527.9	536.0	574.1	680.4	753.3	866.1	879.8	892.0	910.7	959.3	989.3
70°	450.9	460.6	471.1	480.1	574.9	649.5	754.2	758.2	770.4	802.8	870.9
72.5°	85.1	385.2	391.7	397.4	407.9	457.4	557.1	638.2	643.1	658.5	720.9
75°	57.6	67.3	92.4	317.9	328.4	331.7	348.7	450.1	524.7	527.9	555.5
77.5°	41.4	46.2	56.0	66.5	169.5	254.6	258.7	277.3	354.4	410.3	415.2
80°	28.4	31.6	37.3	42.2	51.9	68.1	188.1	193.8	203.5	280.6	295.2
82.5°	16.2	18.7	21.9	26.8	30.8	38.9	50.3	64.9	132.2	141.1	187.3
85°	8.1	8.9	10.5	13.0	15.4	18.7	25.1	30.8	42.2	76.2	78.7
87.5°	4.1	4.1	4.1	4.1	6.5	7.3	8.9	11.4	14.6	21.9	28.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	178°	179°	180°	181°	182°	183°	184°	185°	186°	187°	188°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2693.9	2705.2	2715.0	2717.4	2717.4	2719.0	2721.4	2723.1	2724.7	2726.3	2724.7
5°	2689.0	2701.2	2709.3	2711.7	2711.7	2716.6	2720.6	2725.5	2727.9	2727.9	2726.3
7.5°	2676.8	2685.8	2696.3	2702.8	2703.6	2711.7	2719.0	2718.2	2721.4	2723.1	2727.1
10°	2660.6	2660.6	2678.5	2683.3	2687.4	2696.3	2698.7	2703.6	2715.0	2716.6	2727.1
12.5°	2652.5	2644.4	2665.5	2667.9	2681.7	2670.4	2685.0	2689.8	2678.5	2693.9	2673.6
15°	2616.0	2625.8	2622.5	2629.8	2654.1	2641.2	2680.9	2667.9	2697.1	2662.2	2723.9
17.5°	2586.0	2584.4	2597.4	2603.9	2608.7	2636.3	2646.8	2661.4	2672.8	2663.1	2687.4
20°	2564.1	2551.2	2560.9	2568.2	2585.2	2606.3	2612.8	2590.9	2629.0	2693.9	2709.3
22.5°	2522.8	2513.8	2525.2	2525.2	2551.2	2547.9	2572.2	2558.4	2594.1	2669.5	2748.2
25°	2466.8	2467.6	2479.8	2494.4	2499.3	2535.7	2548.7	2566.6	2611.2	2701.2	2749.0
27.5°	2410.1	2405.2	2412.5	2442.5	2467.6	2494.4	2498.4	2559.3	2620.1	2681.7	2723.9
30°	2353.3	2348.4	2353.3	2375.2	2405.2	2423.0	2467.6	2548.7	2605.5	2647.7	2687.4
32.5°	2292.5	2287.6	2299.0	2315.2	2367.9	2370.3	2458.7	2534.9	2579.5	2610.3	2603.0
35°	2227.6	2221.1	2231.6	2256.8	2305.4	2323.3	2415.7	2472.5	2522.8	2537.4	2503.3
37.5°	2149.7	2138.4	2151.4	2186.2	2237.3	2289.2	2366.3	2431.9	2458.7	2419.8	2379.2
40°	2068.7	2060.5	2083.3	2101.1	2161.1	2233.3	2321.7	2367.9	2350.9	2306.3	2261.7
42.5°	1996.5	1979.5	1999.7	2033.8	2101.9	2183.8	2255.2	2281.1	2240.6	2174.9	2123.0
45°	1908.1	1887.8	1912.1	1957.6	2030.5	2123.8	2179.8	2170.8	2101.9	2045.1	1973.8
47.5°	1815.6	1791.3	1815.6	1870.0	1951.9	2050.8	2091.4	2050.8	1964.0	1892.7	1835.1
50°	1724.8	1696.4	1720.0	1801.9	1882.1	1958.4	1957.6	1878.9	1827.0	1749.2	1698.9
52.5°	1634.8	1594.3	1617.8	1707.0	1787.3	1874.0	1810.0	1737.0	1674.5	1606.4	1590.2
55°	1523.7	1479.9	1511.6	1641.3	1702.9	1754.0	1651.8	1587.8	1526.1	1492.1	1471.8
57.5°	1418.3	1370.5	1398.0	1551.3	1596.7	1609.7	1515.6	1424.8	1388.3	1376.9	1347.7
60°	1309.6	1255.3	1281.3	1458.0	1489.7	1436.9	1344.5	1274.0	1266.7	1243.9	1221.2
62.5°	1205.8	1145.8	1162.0	1342.1	1356.7	1261.0	1175.8	1157.2	1139.3	1116.6	1104.5
65°	1086.6	1024.2	1046.9	1218.8	1205.0	1081.8	1033.9	1029.9	1006.4	987.7	1005.5
67.5°	977.2	903.4	935.0	1084.2	1021.8	921.2	901.7	892.0	873.4	883.9	696.6
70°	857.1	776.9	819.8	939.0	846.6	780.1	772.8	758.2	759.0	603.3	508.4
72.5°	723.3	653.6	716.0	780.1	669.8	650.4	639.8	638.2	514.9	418.4	394.9
75°	605.8	535.2	602.5	626.8	533.6	520.6	519.8	429.8	338.2	322.7	315.4
77.5°	472.8	418.4	482.5	446.0	409.5	394.9	354.4	266.0	254.6	244.1	91.6
80°	318.7	322.7	360.0	307.3	291.9	249.0	196.2	188.1	162.2	64.9	51.1
82.5°	193.8	243.3	229.5	192.2	188.1	135.4	124.1	63.3	47.0	37.3	32.4
85°	100.6	123.3	118.4	104.6	77.8	69.7	38.9	30.0	24.3	18.7	15.4
87.5°	34.1	45.4	43.8	34.9	26.8	21.1	13.8	11.4	8.1	6.5	5.7
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	189°	190°	191°	192°	193°	194°	195°	196°	197°	198°	199°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2723.1	2723.1	2721.4	2723.1	2723.9	2722.3	2722.3	2723.9	2724.7	2725.5	2729.6
5°	2727.1	2728.7	2731.2	2736.0	2736.9	2746.6	2750.6	2753.1	2755.5	2756.3	2750.6
7.5°	2736.0	2741.7	2746.6	2745.8	2740.1	2724.7	2719.8	2715.8	2723.1	2741.7	2763.6
10°	2744.1	2718.2	2669.5	2736.0	2715.8	2734.4	2789.6	2801.7	2839.0	2891.7	2907.1
12.5°	2688.2	2759.6	2775.0	2700.4	2838.2	2787.1	2847.9	2901.5	2916.9	2970.4	2938.0
15°	2748.2	2783.1	2806.6	2881.2	2873.1	2916.9	2933.9	2923.4	2925.8	2939.6	2976.1
17.5°	2747.4	2817.1	2832.5	2882.8	2916.9	2917.7	2912.8	2908.0	2920.9	2931.5	2909.6
20°	2794.4	2817.1	2847.1	2867.4	2873.9	2882.0	2897.4	2885.2	2860.9	2837.4	2827.7
22.5°	2770.9	2822.0	2847.9	2851.2	2847.1	2822.0	2799.3	2765.2	2753.9	2741.7	2745.8
25°	2775.8	2799.3	2796.0	2783.1	2766.0	2719.0	2707.7	2693.1	2671.2	2618.5	2570.6
27.5°	2740.9	2728.7	2714.1	2682.5	2651.7	2626.6	2598.2	2551.2	2512.2	2455.5	2434.4
30°	2682.5	2633.9	2598.2	2579.5	2549.5	2507.4	2464.4	2406.8	2357.3	2346.0	2335.4
32.5°	2570.6	2522.8	2493.6	2448.2	2397.1	2346.8	2297.3	2274.6	2264.1	2265.7	2256.0
35°	2456.3	2414.1	2370.3	2302.2	2264.1	2213.8	2196.0	2191.1	2181.4	2170.8	2159.5
37.5°	2334.6	2285.2	2219.5	2178.9	2140.8	2120.6	2111.6	2104.3	2087.3	2068.7	2055.7
40°	2217.1	2127.9	2091.4	2051.6	2040.3	2031.4	2018.4	2000.5	1977.0	1973.8	1968.1
42.5°	2059.7	1995.7	1964.0	1955.9	1942.2	1926.7	1915.4	1895.9	1886.2	1892.7	1897.6
45°	1910.5	1878.1	1867.5	1857.8	1831.9	1810.0	1802.7	1796.2	1804.3	1840.0	1754.8
47.5°	1789.7	1776.7	1763.7	1747.5	1723.2	1707.0	1714.3	1720.8	1728.1	1466.1	1338.0
50°	1685.1	1667.2	1647.0	1629.1	1614.5	1612.9	1651.0	1536.7	1286.9	1280.4	1150.7
52.5°	1570.7	1544.0	1531.8	1521.3	1527.8	1552.1	1284.5	1192.1	1143.4	993.4	926.9
55°	1447.5	1424.0	1424.0	1433.7	1398.8	1133.7	1119.9	968.2	876.6	850.7	840.1
57.5°	1324.2	1321.8	1335.6	1221.2	1029.1	986.9	829.6	796.3	781.7	778.5	761.5
60°	1211.5	1234.2	1033.1	950.4	826.3	745.2	722.5	718.5	703.1	697.4	682.0
62.5°	1121.5	930.1	866.1	707.1	665.8	655.2	643.1	637.4	623.6	550.6	161.4
65°	810.1	765.5	621.2	594.4	591.2	575.8	570.9	513.3	120.8	81.1	68.9
67.5°	611.4	542.5	523.9	519.0	503.6	472.8	140.3	80.3	68.9	60.0	52.7
70°	469.5	457.4	443.6	432.2	127.3	79.5	68.9	58.4	50.3	44.6	40.5
72.5°	384.4	376.3	218.9	83.5	68.1	57.6	51.1	44.6	38.9	35.7	32.4
75°	300.9	83.5	68.9	57.6	49.5	42.2	37.3	33.2	30.0	27.6	25.1
77.5°	68.1	55.1	47.0	39.7	35.7	31.6	28.4	24.3	21.9	19.5	16.2
80°	42.2	36.5	30.8	28.4	24.3	20.3	17.8	16.2	13.0	12.2	10.5
82.5°	27.6	21.9	19.5	16.2	13.0	12.2	10.5	8.1	7.3	6.5	5.7
85°	12.2	10.5	8.9	7.3	5.7	4.9	4.1	3.2	3.2	3.2	3.2
87.5°	4.1	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	200°	205°	210°	215°	220°	225°	230°	235°	240°	245°	250°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2731.2	2745.8	2759.6	2755.5	2740.9	2718.2	2711.7	2702.8	2709.3	2723.1	2728.7
5°	2750.6	2742.5	2771.7	2814.7	2884.4	2890.9	2939.6	2950.9	2989.9	3014.2	3013.4
7.5°	2778.2	2893.4	2941.2	2993.1	3016.6	3010.9	3018.2	3012.6	3003.6	2999.6	2994.7
10°	2918.5	3006.1	3023.9	3023.9	2987.4	2938.0	2916.9	2880.4	2807.4	2809.0	2796.9
12.5°	3000.4	3031.2	2989.0	2953.4	2806.6	2749.8	2688.2	2659.0	2642.0	2616.0	2625.8
15°	2957.4	2913.6	2888.5	2773.3	2683.3	2581.2	2582.8	2564.9	2546.3	2547.9	2535.7
17.5°	2894.2	2859.3	2680.9	2601.4	2557.6	2517.9	2510.6	2487.1	2474.9	2470.9	2470.1
20°	2807.4	2681.7	2548.7	2529.3	2476.5	2431.1	2423.8	2431.1	2468.4	2401.9	2176.5
22.5°	2706.0	2525.2	2486.3	2431.1	2395.5	2377.6	2422.2	2219.5	1913.0	1950.3	1910.5
25°	2534.1	2455.5	2389.0	2346.8	2342.7	2233.3	1861.1	1822.1	1625.1	1519.7	1401.3
27.5°	2408.4	2374.4	2304.6	2297.3	2244.6	1826.2	1632.4	1418.3	1339.6	1327.5	1301.5
30°	2332.2	2283.5	2241.4	2057.3	1791.3	1470.2	1309.6	1279.6	1265.8	1251.2	1228.5
32.5°	2240.6	2194.3	2214.6	1729.7	1428.0	1265.8	1233.4	1211.5	1186.4	1176.6	1094.7
35°	2147.3	2126.2	1730.5	1454.0	1227.7	1188.8	1164.5	1141.8	908.2	219.8	74.6
37.5°	2047.6	2042.7	1555.3	1206.6	1149.9	1113.4	1044.5	215.7	51.1	34.9	25.9
40°	1969.7	1556.2	1229.4	1131.2	1085.0	1027.4	144.3	35.7	22.7	13.8	8.9
42.5°	1917.8	1399.6	1100.4	1061.5	960.9	106.2	36.5	15.4	8.9	7.3	5.7
45°	1478.3	1105.3	1028.2	987.7	121.6	36.5	21.1	7.3	5.7	4.9	3.2
47.5°	1364.0	1003.9	958.5	215.7	40.5	19.5	14.6	4.9	3.2	3.2	3.2
50°	1033.1	927.7	763.1	52.7	25.9	13.8	10.5	3.2	3.2	3.2	2.4
52.5°	905.8	856.3	81.9	34.9	20.3	10.5	6.5	2.4	2.4	2.4	2.4
55°	827.9	543.3	48.7	26.8	17.0	9.7	4.1	2.4	2.4	2.4	1.6
57.5°	757.4	73.0	35.7	22.7	15.4	8.9	2.4	2.4	2.4	2.4	1.6
60°	642.2	52.7	29.2	20.3	14.6	8.1	2.4	2.4	2.4	2.4	2.4
62.5°	83.5	41.4	25.1	17.8	10.5	6.5	1.6	2.4	2.4	2.4	2.4
65°	60.8	32.4	22.7	12.2	6.5	2.4	1.6	2.4	2.4	2.4	2.4
67.5°	47.0	26.8	17.0	10.5	5.7	1.6	1.6	2.4	2.4	2.4	2.4
70°	37.3	22.7	13.8	8.9	4.9	1.6	1.6	2.4	2.4	2.4	2.4
72.5°	29.2	16.2	9.7	4.9	3.2	1.6	1.6	2.4	2.4	2.4	2.4
75°	21.9	13.0	7.3	4.1	1.6	1.6	1.6	2.4	2.4	2.4	2.4
77.5°	14.6	8.1	5.7	3.2	3.2	3.2	4.1	4.1	2.4	2.4	2.4
80°	9.7	5.7	4.1	4.1	4.1	3.2	4.1	4.1	2.4	4.1	2.4
82.5°	4.9	4.1	4.1	3.2	3.2	2.4	3.2	3.2	3.2	3.2	2.4
85°	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	2.4
87.5°	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	2.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	255°	260°	265°	270°	275°	280°	285°	290°	295°	300°	305°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2721.4	2723.9	2717.4	2752.3	2734.4	2736.0	2743.3	2724.7	2728.7	2715.8	2706.8
5°	3016.6	3021.5	3026.3	3028.0	3031.2	3035.3	3030.4	3028.0	3023.1	3006.9	2989.9
7.5°	2970.4	2964.7	2962.3	2965.5	2971.2	2973.6	2969.6	2975.3	2996.3	3005.3	3010.9
10°	2727.1	2701.2	2719.0	2716.6	2696.3	2764.4	2745.8	2756.3	2763.6	2838.2	2883.6
12.5°	2611.2	2627.4	2596.6	2581.2	2601.4	2615.2	2629.0	2599.8	2640.4	2621.7	2681.7
15°	2513.8	2504.1	2500.9	2501.7	2497.6	2517.1	2522.0	2528.4	2534.1	2559.3	2569.0
17.5°	2470.1	2486.3	2492.8	2497.6	2489.5	2480.6	2471.7	2458.7	2462.8	2456.3	2474.9
20°	2024.9	1970.5	1967.3	1998.9	1964.0	1983.5	2030.5	2345.2	2334.6	2457.1	2415.7
22.5°	1690.0	1638.9	1595.1	1557.0	1611.3	1634.0	1721.6	1820.5	1981.1	1955.9	2130.3
25°	1380.2	1361.5	1350.2	1344.5	1348.6	1346.9	1366.4	1412.6	1485.6	1657.5	1879.7
27.5°	1291.0	1282.1	1278.0	1265.0	1274.8	1271.5	1286.9	1296.7	1318.6	1335.6	1407.8
30°	1220.4	1209.9	1202.6	1188.8	1198.5	1199.3	1204.2	1229.4	1238.3	1252.9	1275.6
32.5°	446.0	262.7	246.5	234.4	256.3	334.1	586.3	1025.0	1169.3	1180.7	1206.6
35°	43.8	36.5	32.4	32.4	33.2	36.5	48.7	128.1	234.4	905.8	1133.7
37.5°	17.0	14.6	12.2	11.4	12.2	13.8	18.7	24.3	33.2	68.9	307.3
40°	7.3	6.5	5.7	5.7	5.7	5.7	6.5	8.1	12.2	22.7	35.7
42.5°	4.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	5.7	7.3	14.6
45°	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	4.1	6.5
47.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2
50°	2.4	2.4	2.4	2.4	1.6	2.4	1.6	2.4	2.4	2.4	2.4
52.5°	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4
55°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4
57.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
60°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
62.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	1.6
65°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	1.6
67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
70°	2.4	2.4	1.6	2.4	1.6	1.6	2.4	2.4	2.4	1.6	1.6
72.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.9	4.9	3.2
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.1	4.9	4.1
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.1	4.1	4.1
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	310°	315°	320°	325°	330°	335°	340°	341°	342°	343°	344°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2691.4	2690.6	2707.7	2720.6	2715.8	2720.6	2726.3	2727.1	2728.7	2722.3	2719.8
5°	2957.4	2932.3	2883.6	2848.8	2808.2	2734.4	2697.9	2702.0	2702.8	2700.4	2703.6
7.5°	3008.5	3006.1	2989.0	2981.7	2954.2	2901.5	2817.1	2802.5	2766.9	2744.1	2725.5
10°	2880.4	2938.8	2954.2	2980.1	2996.3	2986.6	2915.3	2904.7	2882.0	2856.1	2861.7
12.5°	2741.7	2789.6	2792.0	2933.1	2964.7	2968.0	2940.4	2955.0	2958.2	2899.8	2865.8
15°	2571.4	2594.1	2642.0	2773.3	2869.0	2929.0	2946.9	2955.0	2915.3	2912.8	2899.0
17.5°	2496.8	2511.4	2533.3	2607.1	2752.3	2840.6	2916.1	2910.4	2925.8	2914.4	2879.6
20°	2402.8	2414.9	2453.8	2491.1	2562.5	2680.1	2821.2	2831.7	2852.0	2849.6	2859.3
22.5°	2401.1	2358.2	2364.6	2393.8	2468.4	2573.9	2723.9	2758.7	2771.7	2780.6	2791.2
25°	1904.8	2246.2	2308.7	2327.3	2376.0	2437.6	2614.4	2627.4	2651.7	2691.4	2720.6
27.5°	1650.2	1882.1	2131.9	2261.7	2292.5	2343.6	2449.0	2468.4	2551.2	2560.9	2606.3
30°	1302.3	1481.5	1854.6	2166.8	2217.9	2253.5	2328.1	2367.1	2402.8	2441.7	2489.5
32.5°	1225.3	1253.7	1460.5	1792.9	2190.3	2163.5	2218.7	2242.2	2281.1	2315.2	2350.0
35°	1154.7	1174.2	1218.0	1468.6	1784.0	2089.7	2127.0	2142.4	2164.3	2190.3	2215.4
37.5°	1081.0	1110.1	1140.2	1207.5	1650.2	2031.4	2030.5	2048.4	2061.4	2083.3	2104.3
40°	196.2	1019.3	1068.0	1111.8	1279.6	1620.2	1939.7	1947.8	1956.7	1970.5	1992.4
42.5°	31.6	170.3	1000.7	1042.8	1090.7	1450.7	1898.4	1865.1	1859.4	1869.2	1888.6
45°	16.2	41.4	201.1	973.9	1016.9	1157.2	1552.1	1807.5	1801.9	1783.2	1787.3
47.5°	12.2	25.9	49.5	336.5	952.0	993.4	1432.1	1416.7	1524.5	1731.3	1699.7
50°	10.5	17.8	29.2	68.9	840.9	914.7	1102.8	1288.6	1345.3	1352.6	1600.8
52.5°	9.7	12.2	21.1	44.6	176.8	845.8	896.9	961.7	1057.4	1262.6	1257.7
55°	8.9	11.4	17.8	30.0	61.6	762.3	815.0	827.1	847.4	945.5	1075.3
57.5°	4.9	10.5	17.0	25.9	46.2	139.5	739.6	749.3	765.5	769.6	815.8
60°	2.4	9.7	15.4	22.7	34.1	64.9	665.0	676.3	686.0	687.7	702.3
62.5°	1.6	8.9	13.0	21.1	28.4	46.2	157.3	321.1	610.6	610.6	627.7
65°	1.6	6.5	8.1	13.8	25.9	38.1	66.5	77.0	150.0	369.0	550.6
67.5°	1.6	2.4	7.3	11.4	19.5	29.2	48.7	56.8	68.1	77.8	144.3
70°	1.6	1.6	6.5	7.3	12.2	21.9	34.9	39.7	46.2	52.7	60.8
72.5°	1.6	1.6	5.7	5.7	8.1	14.6	26.8	29.2	33.2	37.3	43.0
75°	4.1	3.2	4.9	4.9	5.7	11.4	20.3	22.7	24.3	27.6	31.6
77.5°	4.1	4.1	4.1	4.1	4.1	7.3	13.0	14.6	17.0	18.7	21.9
80°	3.2	3.2	3.2	4.1	4.1	4.9	8.1	8.9	9.7	12.2	13.0
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.9	5.7	7.3
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2	3.2	3.2
87.5°	2.4	2.4	2.4	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	345°	346°	347°	348°	349°	350°	351°	352°	353°	354°	355°
0°	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2719.0	2714.1	2710.1	2712.5	2705.2	2702.0	2704.4	2705.2	2706.8	2710.9	2711.7
5°	2711.7	2710.1	2717.4	2721.4	2719.8	2721.4	2721.4	2718.2	2713.3	2716.6	2709.3
7.5°	2706.8	2696.3	2688.2	2689.8	2681.7	2691.4	2700.4	2713.3	2717.4	2717.4	2709.3
10°	2790.4	2779.0	2733.6	2702.8	2682.5	2664.7	2706.8	2663.9	2684.1	2607.1	2695.5
12.5°	2859.3	2874.7	2854.4	2770.1	2755.5	2702.0	2732.8	2680.1	2664.7	2576.3	2604.7
15°	2886.9	2857.7	2851.2	2827.7	2796.0	2780.6	2697.9	2689.0	2663.9	2673.6	2636.3
17.5°	2862.5	2877.1	2857.7	2842.3	2809.8	2773.3	2723.9	2680.1	2645.2	2567.4	2633.1
20°	2839.0	2858.5	2800.1	2809.8	2813.1	2770.9	2745.0	2708.5	2664.7	2591.7	2534.9
22.5°	2800.1	2786.3	2791.2	2776.6	2764.4	2770.1	2734.4	2709.3	2635.5	2602.2	2525.2
25°	2736.9	2732.0	2745.0	2743.3	2714.1	2704.4	2686.6	2659.8	2630.6	2577.1	2513.8
27.5°	2633.9	2659.0	2681.7	2692.3	2676.8	2650.9	2641.2	2625.8	2605.5	2551.2	2504.1
30°	2525.2	2553.6	2579.5	2602.2	2616.0	2604.7	2595.8	2586.8	2556.0	2520.3	2467.6
32.5°	2401.1	2438.4	2474.1	2501.7	2531.7	2540.6	2534.1	2526.8	2500.9	2468.4	2426.3
35°	2257.6	2308.7	2360.6	2410.1	2423.0	2444.1	2465.2	2453.0	2439.2	2406.8	2367.9
37.5°	2136.0	2172.5	2209.8	2272.2	2317.6	2344.4	2381.7	2386.5	2363.0	2347.6	2296.5
40°	2010.3	2043.5	2097.8	2134.3	2196.8	2227.6	2267.3	2285.2	2279.5	2270.6	2226.0
42.5°	1911.3	1927.6	1963.2	1995.7	2057.3	2120.6	2155.4	2174.9	2195.2	2187.9	2165.2
45°	1805.9	1820.5	1832.7	1861.1	1921.1	1977.0	2020.0	2049.2	2085.7	2102.7	2075.1
47.5°	1701.3	1705.4	1720.0	1743.5	1779.2	1822.1	1894.3	1938.1	1972.2	2005.4	1987.6
50°	1621.0	1606.4	1608.9	1623.5	1652.7	1694.8	1746.7	1808.3	1847.3	1887.8	1891.9
52.5°	1416.7	1535.1	1506.7	1514.8	1530.2	1550.5	1604.8	1665.6	1713.5	1748.3	1783.2
55°	1188.8	1212.3	1440.2	1407.8	1417.5	1435.3	1460.5	1521.3	1567.5	1616.2	1664.8
57.5°	922.0	1097.2	1106.1	1316.9	1312.1	1313.7	1334.8	1369.6	1415.9	1476.7	1518.0
60°	716.9	790.6	934.2	1007.2	1192.1	1198.5	1210.7	1231.0	1270.7	1328.3	1394.0
62.5°	632.5	642.2	693.3	802.8	922.8	1068.0	1093.9	1097.2	1115.0	1172.6	1248.8
65°	555.5	562.0	577.4	588.7	689.3	829.6	954.5	974.7	986.1	1020.1	1085.0
67.5°	382.8	484.1	497.9	506.0	515.7	580.6	735.5	838.5	851.5	881.5	938.2
70°	73.8	153.3	419.2	428.2	433.0	447.6	472.8	636.6	722.5	750.9	776.9
72.5°	50.3	59.2	71.4	168.7	356.8	364.9	370.6	391.7	536.8	619.5	633.3
75°	36.5	40.5	47.8	59.2	73.0	237.6	294.4	304.9	315.4	435.5	505.2
77.5°	25.9	29.2	32.4	38.1	44.6	57.6	82.7	227.9	238.4	244.1	344.6
80°	14.6	17.8	21.9	25.1	28.4	32.4	42.2	52.7	117.6	171.9	180.8
82.5°	8.1	9.7	11.4	13.8	15.4	19.5	23.5	28.4	37.3	55.1	116.8
85°	4.1	4.1	4.1	5.7	6.5	8.9	10.5	12.2	17.0	23.5	32.4
87.5°	2.4	2.4	3.2	3.2	3.2	4.1	4.1	4.1	4.9	7.3	10.5
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-LD5-48HL-RM-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	356°	357°	358°	359°	360°
0°	2702.0	2702.0	2702.0	2702.0	2702.0
2.5°	2712.5	2710.1	2710.1	2719.8	2717.4
5°	2707.7	2705.2	2704.4	2715.0	2710.1
7.5°	2703.6	2694.7	2692.3	2702.0	2697.9
10°	2687.4	2680.9	2685.0	2681.7	2680.1
12.5°	2659.8	2655.8	2638.7	2640.4	2654.1
15°	2610.3	2626.6	2597.4	2623.3	2629.0
17.5°	2519.5	2556.0	2584.4	2599.8	2602.2
20°	2560.1	2572.2	2557.6	2558.4	2568.2
22.5°	2507.4	2513.0	2517.1	2512.2	2533.3
25°	2423.0	2401.1	2448.2	2457.9	2492.0
27.5°	2397.1	2379.2	2401.1	2399.5	2427.9
30°	2376.0	2318.4	2328.1	2343.6	2378.4
32.5°	2346.0	2255.2	2245.4	2279.5	2318.4
35°	2293.3	2207.3	2184.6	2206.5	2264.9
37.5°	2248.7	2140.8	2095.4	2124.6	2200.8
40°	2182.2	2088.9	2018.4	2044.3	2134.3
42.5°	2102.7	2044.3	1935.7	1953.5	2056.5
45°	2022.4	1970.5	1855.4	1864.3	1986.8
47.5°	1940.5	1892.7	1771.9	1773.5	1897.6
50°	1860.2	1797.0	1697.3	1668.9	1802.7
52.5°	1755.6	1697.3	1621.8	1575.6	1712.7
55°	1656.7	1591.0	1535.9	1464.5	1610.5
57.5°	1560.2	1487.2	1449.9	1358.3	1494.5
60°	1428.0	1393.2	1338.0	1250.4	1389.9
62.5°	1292.6	1281.3	1225.3	1134.5	1261.0
65°	1134.5	1161.2	1103.7	1025.8	1127.2
67.5°	985.3	1033.1	969.9	922.0	998.2
70°	826.3	881.5	845.8	828.8	861.2
72.5°	669.8	723.3	726.6	714.4	725.0
75°	517.4	576.6	609.0	590.3	592.8
77.5°	392.5	420.9	456.5	471.1	467.9
80°	242.5	291.9	321.1	351.1	340.6
82.5°	122.4	163.8	199.5	231.9	216.5
85°	51.1	65.7	91.6	120.8	116.0
87.5°	15.4	25.9	27.6	38.9	36.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)