

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-L940-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-L940-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
METALIC FINISH REFLECTOR
Light Source: -
Ballast/Driver: -

Summary

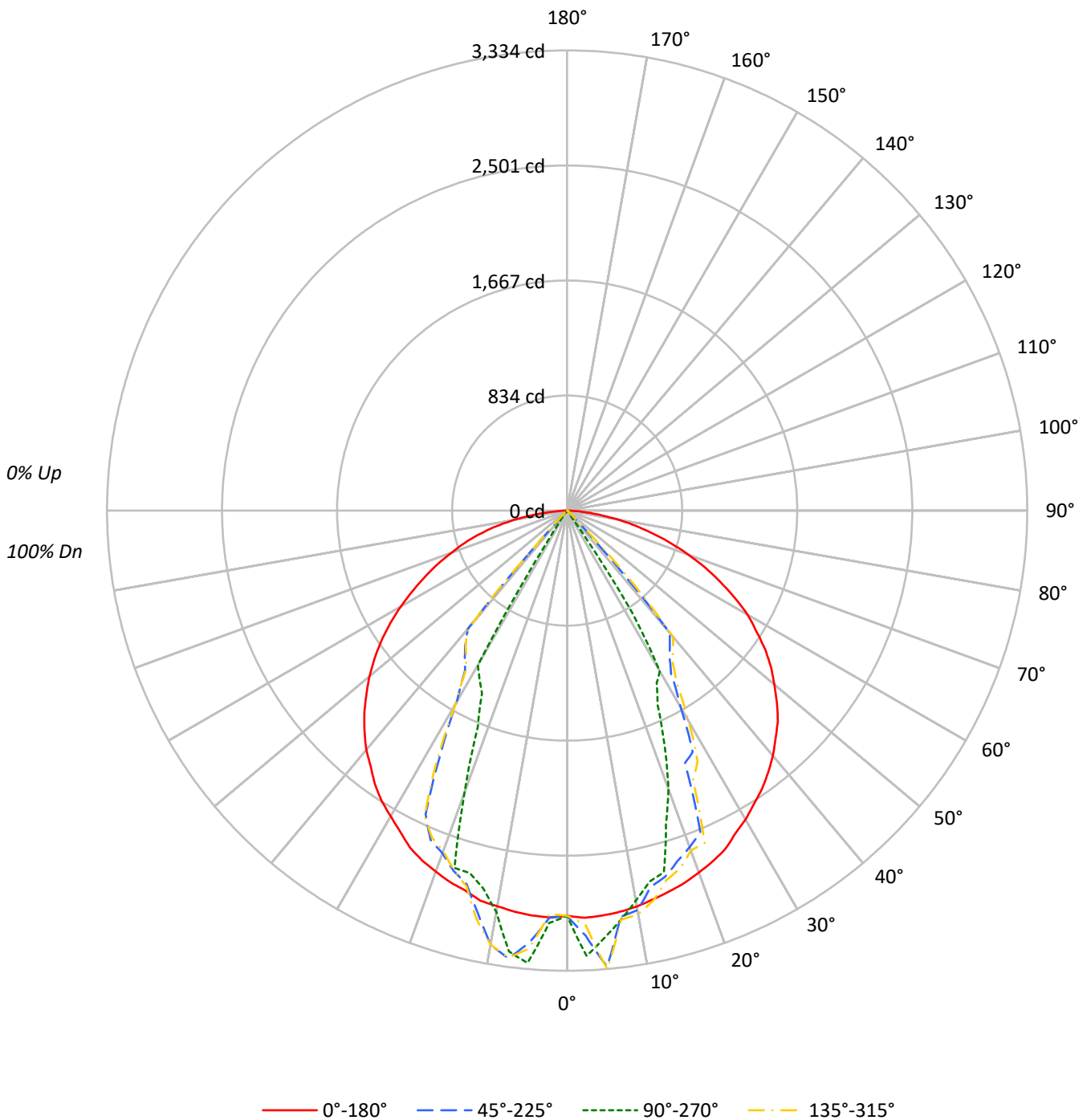
Lumens per Lamp: N/A
Luminaire Lumens: 4174.9 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 0.81 / 0.97
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	23727	23727	23727	23727
5°	23824	24403	23817	25843
10°	23767	22082	23753	22719
15°	23703	20612	23644	20665
20°	23730	16234	23662	16435
25°	23798	11749	23682	11086
30°	23690	10306	23440	9907
35°	23760	227	23412	275
40°	23841	50	23271	50
45°	23926	29	23027	22
50°	23743	23	22653	23
55°	23603	17	22154	17
60°	23158	18	21347	18
65°	21951	28	20386	19
70°	20362	30	19385	30
75°	18013	34	18306	34
80°	14630	39	15468	39
85°	8608	46	8792	46



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.6	7.1
10°-20°	803.5	19.2
20°-30°	1022.5	24.5
30°-40°	863.7	20.7
40°-50°	564.7	13.5
50°-60°	355.8	8.5
60°-70°	189.4	4.5
70°-80°	69.0	1.7
80°-90°	11.9	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°	2120.5	50.8
0°-40°	2984.2	71.5
0°-60°	3904.7	93.5
0°-90°	4174.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4174.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2936	2936	2936	2936	2936	
5°	2945	3107	2944	3290	2945	280
15°	2857	2712	2850	2718	2857	808
25°	2708	1548	2695	1461	2708	1245
35°	2461	29	2425	35	2461	1540
45°	2159	4	2078	3	2159	1660
55°	1750	2	1643	2	1750	1559
65°	1225	3	1138	2	1225	1213
75°	644	3	655	3	644	684
85°	126	3	129	3	126	159
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°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2952.9	2954.7	2955.6	2957.3	2960.0	2960.8	2962.6	2960.8	2960.8	2960.8	2960.8
5°	2945.0	2948.5	2951.2	2954.7	2960.8	2961.7	2968.8	2969.7	2973.2	2980.2	2985.5
7.5°	2931.8	2935.3	2940.6	2949.4	2958.2	2967.9	2980.2	2993.5	3012.0	3029.6	3051.6
10°	2912.4	2916.8	2923.0	2930.9	2974.1	2980.2	3007.5	3045.4	3056.0	3111.5	3152.9
12.5°	2884.2	2899.2	2915.0	2922.1	2963.5	3028.7	3120.3	3101.8	3081.6	3263.1	3260.5
15°	2856.9	2877.1	2869.2	2926.5	2964.4	3078.0	3039.3	3122.1	3273.7	3236.7	3238.4
17.5°	2827.8	2832.2	2876.3	2923.8	2991.7	3049.8	3097.4	3211.1	3241.1	3243.7	3211.1
20°	2790.8	2811.9	2876.3	2919.4	3034.0	3061.3	3164.4	3222.6	3210.2	3180.3	3124.7
22.5°	2752.9	2817.2	2882.4	2943.2	3023.4	3096.6	3147.7	3175.0	3110.7	2992.6	2929.1
25°	2707.9	2745.8	2831.3	2920.3	3020.8	3063.1	3093.0	3049.0	2965.3	2859.5	2752.9
27.5°	2638.3	2699.1	2808.4	2908.9	2999.6	3050.7	3002.3	2896.5	2761.7	2692.1	2643.6
30°	2584.6	2663.9	2753.8	2850.7	2945.0	2974.9	2851.6	2730.9	2638.3	2568.7	2558.1
32.5°	2519.4	2632.2	2717.6	2810.2	2889.5	2849.8	2730.0	2574.0	2497.3	2470.9	2481.5
35°	2461.2	2546.7	2658.6	2749.4	2806.6	2717.6	2528.2	2431.2	2394.2	2409.2	2389.8
37.5°	2391.6	2504.4	2607.5	2685.9	2666.5	2532.6	2372.2	2310.5	2314.9	2302.6	2265.6
40°	2319.3	2426.8	2534.3	2608.4	2540.5	2336.1	2229.4	2216.2	2218.9	2179.2	2126.3
42.5°	2234.7	2332.5	2440.1	2507.0	2360.7	2201.2	2129.0	2130.8	2107.8	2052.3	2024.1
45°	2159.0	2248.8	2360.7	2366.9	2187.1	2054.1	2032.9	2010.0	1958.9	1940.4	1919.3
47.5°	2062.0	2161.6	2254.1	2220.6	2017.1	1934.2	1918.4	1868.2	1842.6	1828.5	1810.9
50°	1958.9	2059.4	2144.0	2048.8	1856.7	1837.3	1785.3	1745.7	1728.0	1713.1	1697.2
52.5°	1861.1	1943.9	2030.3	1866.4	1733.3	1714.8	1655.8	1632.9	1615.2	1598.5	1595.0
55°	1750.1	1823.2	1882.3	1692.8	1615.2	1572.1	1529.8	1513.9	1497.2	1489.2	1502.5
57.5°	1624.1	1706.9	1698.1	1521.8	1487.5	1424.9	1409.0	1398.5	1386.1	1391.4	1281.3
60°	1510.4	1573.8	1530.7	1396.7	1338.5	1296.3	1282.2	1275.1	1282.2	1174.6	1032.8
62.5°	1370.3	1441.7	1354.4	1250.4	1188.7	1168.5	1156.1	1165.8	1062.7	944.7	910.3
65°	1224.9	1302.4	1173.8	1093.6	1054.8	1037.2	1036.3	954.3	853.0	807.2	807.2
67.5°	1084.8	1165.0	999.3	932.3	917.3	919.1	868.0	743.7	715.5	684.7	595.7
70°	935.8	1006.3	825.7	785.2	776.3	770.2	645.9	612.4	579.0	497.0	489.9
72.5°	787.8	822.2	663.5	653.9	652.1	541.9	517.3	460.0	421.2	411.5	407.1
75°	644.2	633.6	524.3	533.1	449.4	410.6	371.0	337.5	332.2	328.7	82.0
77.5°	508.5	455.6	413.3	359.5	321.6	273.2	265.2	260.0	171.0	61.7	50.2
80°	370.1	295.2	274.9	233.5	199.2	191.2	195.6	59.9	47.6	39.7	34.4
82.5°	235.3	188.6	154.2	134.8	131.3	57.3	42.3	34.4	30.0	25.6	21.1
85°	126.0	83.7	77.5	65.2	38.8	26.4	22.0	16.7	14.1	11.5	10.6
87.5°	39.7	33.5	27.3	22.0	13.2	8.8	7.0	6.2	5.3	4.4	4.4
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°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2959.1	2960.8	2960.0	2962.6	2962.6	2966.1	2968.8	2971.4	2976.7	2979.4	2999.6
5°	2997.0	3001.4	3014.6	3026.9	3041.9	3046.3	3071.9	3078.0	3108.0	3111.5	3210.2
7.5°	3081.6	3098.3	3130.0	3161.8	3193.5	3213.8	3249.0	3271.0	3294.8	3316.0	3394.4
10°	3183.8	3212.0	3242.8	3274.6	3293.1	3331.8	3353.0	3356.5	3350.3	3316.0	3189.1
12.5°	3284.2	3312.4	3299.2	3305.4	3327.4	3258.7	3268.4	3219.0	3253.4	3083.3	2957.3
15°	3270.1	3268.4	3235.8	3130.0	3147.7	3016.4	2963.5	2923.0	2955.6	2937.9	2918.5
17.5°	3227.9	3147.7	3091.3	2964.4	2910.6	2873.6	2874.5	2875.4	2859.5	2876.3	2826.9
20°	3049.0	2959.1	2875.4	2830.4	2814.6	2788.1	2801.3	2788.1	2789.0	2794.3	2718.5
22.5°	2811.0	2783.7	2735.3	2749.4	2744.1	2767.9	2750.2	2722.9	2731.7	2692.1	2634.8
25°	2715.0	2683.3	2681.5	2686.8	2678.9	2668.3	2652.4	2611.0	2608.4	2596.0	2569.6
27.5°	2618.1	2619.8	2625.1	2609.2	2581.0	2559.9	2536.1	2515.8	2523.8	2509.7	2473.5
30°	2551.1	2550.2	2518.5	2504.4	2452.4	2453.3	2447.1	2434.8	2426.8	2427.7	2404.8
32.5°	2455.9	2428.6	2392.5	2374.8	2370.4	2354.6	2342.2	2344.9	2351.1	2329.0	2352.8
35°	2358.1	2301.7	2296.4	2281.4	2267.3	2256.8	2261.2	2243.5	2242.7	2240.0	2046.2
37.5°	2226.8	2199.5	2196.8	2181.0	2171.3	2168.6	2151.9	2154.5	2162.5	2176.6	1744.8
40°	2118.4	2093.7	2087.6	2086.7	2065.5	2063.8	2068.2	2084.9	2096.4	2008.3	1662.8
42.5°	2002.1	2003.9	1984.5	1972.1	1974.8	1982.7	2003.9	1945.7	1685.7	1606.4	1520.1
45°	1902.5	1893.7	1883.1	1879.6	1902.5	1886.7	1654.0	1526.2	1495.4	1491.9	1249.5
47.5°	1798.5	1795.9	1791.5	1794.1	1663.7	1483.1	1430.2	1413.5	1418.7	1415.2	1073.3
50°	1693.7	1697.2	1697.2	1482.2	1360.6	1330.6	1335.0	1350.0	1256.6	1172.9	1000.2
52.5°	1602.9	1575.6	1350.0	1272.5	1245.1	1258.4	1226.6	1109.4	1024.8	975.5	925.3
55°	1434.6	1233.7	1183.5	1171.1	1180.8	1063.6	991.4	915.6	893.5	888.3	859.2
57.5°	1128.8	1088.3	1092.7	1043.3	931.4	865.3	836.3	825.7	816.0	808.9	70.5
60°	998.4	1009.9	924.4	818.6	773.7	764.9	757.8	748.1	746.4	734.0	44.9
62.5°	913.8	803.7	729.6	703.2	692.6	690.0	676.8	672.4	571.0	78.4	33.5
65°	689.1	644.2	630.1	623.9	612.4	612.4	508.5	80.2	65.2	56.4	30.0
67.5°	562.2	558.7	551.6	543.7	370.1	77.5	67.9	59.0	51.1	44.9	26.4
70°	475.9	474.1	431.8	79.3	66.1	58.2	51.1	45.8	42.3	37.9	23.8
72.5°	390.4	79.3	67.0	58.2	50.2	45.8	41.4	37.0	33.5	30.8	19.4
75°	60.8	53.8	47.6	43.2	39.7	35.2	31.7	29.1	28.2	24.7	13.2
77.5°	44.1	37.9	34.4	30.8	27.3	24.7	21.1	18.5	16.7	14.1	9.7
80°	30.8	27.3	24.7	20.3	17.6	15.0	13.2	11.5	10.6	8.8	4.4
82.5°	17.6	15.0	13.2	10.6	9.7	7.9	7.0	6.2	6.2	4.4	4.4
85°	7.9	7.9	6.2	5.3	4.4	4.4	4.4	3.5	3.5	2.6	2.6
87.5°	3.5	3.5	3.5	3.5	3.5	2.6	2.6	2.6	2.6	2.6	1.8
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°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	3027.8	3039.3	3061.3	3084.2	3058.7	3150.3	3143.3	3174.1	3190.8	3198.8	3217.3
5°	3297.5	3348.6	3365.3	3315.1	3286.0	3256.0	3188.2	3137.1	3143.3	3126.5	3065.7
7.5°	3292.2	3182.9	3035.7	2968.8	2963.5	2955.6	2976.7	2989.0	2990.8	2989.9	2988.2
10°	3013.7	2957.3	2947.6	2938.8	2942.3	2909.7	2894.8	2852.5	2875.4	2863.0	2867.4
12.5°	2929.1	2915.9	2863.9	2791.7	2834.8	2802.2	2783.7	2796.1	2782.0	2768.7	2764.3
15°	2878.9	2793.4	2764.3	2746.7	2734.4	2727.3	2733.5	2719.4	2715.0	2712.3	2718.5
17.5°	2774.9	2740.5	2708.8	2662.1	2663.0	2660.4	2678.0	2704.4	2706.2	2570.5	2448.0
20°	2693.0	2664.8	2624.2	2595.1	2634.8	2564.3	2292.0	2162.5	2142.2	2142.2	2145.7
22.5°	2627.8	2565.2	2567.8	2522.0	2151.0	2075.2	2077.0	2084.9	2048.8	1925.4	1912.2
25°	2538.7	2529.1	2336.1	2018.8	2021.5	1962.4	1871.7	1743.9	1605.6	1605.6	1582.6
27.5°	2471.8	2266.5	1984.5	1971.3	1773.0	1647.9	1570.3	1453.1	1437.2	1422.3	1424.0
30°	2414.5	1917.5	1924.5	1647.9	1501.6	1397.6	1391.4	1372.0	1362.3	1359.7	1350.0
32.5°	1908.7	1867.3	1610.8	1402.9	1345.6	1328.9	1320.9	1298.9	1298.0	1281.3	1165.0
35°	1789.7	1639.0	1348.2	1291.8	1275.1	1259.2	1246.0	836.3	98.7	39.7	34.4
37.5°	1654.0	1369.4	1246.9	1221.3	1205.5	890.9	89.0	30.8	22.0	15.9	14.1
40°	1402.0	1223.1	1184.3	1156.1	476.7	30.8	19.4	15.0	8.8	7.9	7.0
42.5°	1182.6	1152.6	1111.2	338.4	35.2	15.0	9.7	7.0	6.2	6.2	5.3
45°	1106.8	1080.4	447.7	33.5	22.0	7.0	6.2	6.2	5.3	3.5	3.5
47.5°	1036.3	912.0	40.5	21.1	14.1	6.2	5.3	3.5	3.5	3.5	2.6
50°	961.4	50.2	28.2	15.9	8.8	3.5	3.5	3.5	3.5	2.6	2.6
52.5°	179.8	35.2	22.9	14.1	4.4	3.5	3.5	3.5	2.6	2.6	2.6
55°	42.3	28.2	21.1	12.3	3.5	3.5	3.5	2.6	2.6	2.6	1.8
57.5°	31.7	21.1	16.7	11.5	3.5	2.6	2.6	2.6	2.6	2.6	1.8
60°	26.4	15.0	13.2	10.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8
62.5°	18.5	12.3	9.7	7.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6
65°	15.0	9.7	7.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
67.5°	13.2	7.9	5.3	1.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6
70°	10.6	2.6	2.6	1.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6
72.5°	8.8	2.6	1.8	1.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6
75°	8.8	4.4	1.8	1.8	2.6	2.6	3.5	3.5	2.6	2.6	2.6
77.5°	6.2	4.4	1.8	1.8	2.6	2.6	3.5	3.5	2.6	2.6	2.6
80°	3.5	4.4	1.8	2.6	2.6	5.3	6.2	3.5	2.6	2.6	2.6
82.5°	3.5	4.4	5.3	5.3	2.6	4.4	5.3	4.4	3.5	2.6	2.6
85°	3.5	2.6	3.5	4.4	2.6	4.4	4.4	3.5	3.5	2.6	2.6
87.5°	1.8	2.6	2.6	3.5	3.5	3.5	4.4	3.5	3.5	3.5	2.6
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	3226.1	3229.6	3174.1	3154.7	3171.5	3167.9	3152.9	3097.4	3091.3	3054.3	3000.5
5°	3083.3	3107.1	3078.0	3128.3	3104.5	3128.3	3200.5	3234.0	3288.7	3322.1	3334.5
7.5°	2983.8	2989.0	2989.0	2993.5	2997.9	2998.7	2993.5	2989.9	2974.9	2956.4	2989.9
10°	2863.0	2869.2	2879.8	2878.0	2877.1	2895.6	2900.0	2937.9	2936.2	2943.2	2968.8
12.5°	2800.5	2752.9	2796.1	2784.6	2800.5	2775.8	2821.6	2813.7	2816.3	2837.5	2892.1
15°	2696.5	2711.5	2722.0	2722.0	2728.2	2722.9	2717.6	2753.8	2775.8	2776.7	2773.1
17.5°	2496.5	2382.8	2499.1	2469.1	2707.9	2714.1	2693.8	2677.1	2677.1	2690.3	2718.5
20°	2143.1	2145.7	2146.6	2158.1	2172.2	2171.3	2172.2	2519.4	2684.1	2646.3	2620.7
22.5°	1878.7	1846.1	1906.9	1902.5	1978.3	2062.0	2142.2	2134.3	2139.6	2384.5	2604.8
25°	1506.0	1548.3	1513.9	1528.9	1614.4	1713.9	1775.6	1936.9	2112.2	2099.9	2157.2
27.5°	1417.9	1406.4	1422.3	1422.3	1433.7	1446.9	1481.3	1572.1	1728.0	1891.9	2047.0
30°	1334.1	1343.8	1345.6	1361.5	1370.3	1379.1	1384.4	1418.7	1454.0	1567.7	1758.9
32.5°	1001.9	878.6	1156.1	1231.0	1294.5	1309.5	1320.0	1334.1	1359.7	1376.4	1472.5
35°	29.1	29.1	30.8	35.2	44.9	303.1	1154.4	1272.5	1289.2	1310.4	1328.0
37.5°	14.1	10.6	12.3	13.2	15.9	22.0	31.7	98.7	1098.9	1242.5	1261.9
40°	6.2	6.2	6.2	6.2	7.0	8.8	13.2	22.0	33.5	883.8	1192.3
42.5°	5.3	5.3	5.3	5.3	5.3	5.3	6.2	7.9	15.9	37.9	625.7
45°	3.5	3.5	2.6	3.5	3.5	4.4	5.3	5.3	7.0	23.8	43.2
47.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	4.4	5.3	15.9	22.9
50°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	12.3	15.9
52.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	5.3	14.1
55°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6	2.6	3.5	12.3
57.5°	1.8	1.8	1.8	1.8	1.8	2.6	1.8	1.8	2.6	2.6	11.5
60°	1.8	1.8	1.8	1.8	1.8	2.6	2.6	2.6	2.6	2.6	10.6
62.5°	2.6	2.6	1.8	2.6	1.8	1.8	2.6	2.6	2.6	2.6	7.0
65°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8	2.6
67.5°	2.6	2.6	2.6	2.6	1.8	2.6	1.8	2.6	2.6	1.8	1.8
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8	1.8	1.8	1.8
72.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8	1.8	1.8	1.8
75°	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	1.8	1.8	1.8
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	4.4	5.3	4.4	4.4	1.8
80°	2.6	2.6	2.6	2.6	2.6	2.6	4.4	4.4	4.4	4.4	6.2
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5	3.5	4.4
85°	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5	2.6	3.5
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	2.6	2.6	2.6
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	140°	145°	150°	155°	160°	161°	162°	163°	164°	165°	166°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	3004.9	2974.9	2965.3	2945.0	2943.2	2945.0	2940.6	2934.4	2937.9	2931.8	2926.5
5°	3341.5	3261.3	3209.3	3139.7	3043.7	3022.5	3017.2	2987.3	2976.7	2973.2	2959.1
7.5°	3069.2	3215.5	3303.6	3333.6	3220.8	3194.4	3163.5	3138.8	3115.1	3070.1	3042.8
10°	2948.5	2955.6	3040.2	3138.8	3299.2	3321.3	3338.0	3284.2	3269.3	3154.7	3130.0
12.5°	2920.3	2921.2	2930.9	2990.8	3116.8	3130.9	3190.0	3221.7	3260.5	3282.5	3264.9
15°	2791.7	2863.0	2915.9	2921.2	2932.6	2957.3	2974.9	3085.1	3131.8	3256.9	3249.9
17.5°	2731.7	2754.6	2831.3	2893.9	2883.3	2874.5	2888.6	2903.6	2948.5	3073.6	3071.9
20°	2632.2	2705.3	2746.7	2811.9	2871.0	2873.6	2857.7	2848.9	2831.3	2851.6	2870.1
22.5°	2589.9	2601.3	2678.9	2724.7	2791.7	2815.4	2819.0	2819.9	2810.2	2799.6	2794.3
25°	2585.5	2549.3	2589.0	2646.3	2695.6	2721.2	2750.2	2759.9	2756.4	2756.4	2751.1
27.5°	2115.8	2537.9	2516.7	2554.6	2614.5	2632.2	2647.1	2677.1	2695.6	2708.8	2715.0
30°	2015.3	2091.1	2460.3	2465.6	2526.4	2524.6	2541.4	2566.1	2589.9	2620.7	2628.6
32.5°	1782.7	1968.6	2252.4	2376.6	2440.1	2446.2	2455.0	2462.1	2484.1	2518.5	2548.4
35°	1428.4	1793.3	1929.8	2334.3	2345.8	2358.1	2363.4	2380.1	2387.2	2401.3	2427.7
37.5°	1292.7	1482.2	1851.4	2018.8	2237.4	2248.0	2276.2	2283.2	2294.7	2306.1	2326.4
40°	1214.3	1266.3	1541.2	1802.9	2150.1	2157.2	2166.9	2184.5	2185.4	2198.6	2217.1
42.5°	1151.7	1185.2	1265.4	1721.9	2088.5	2087.6	2064.7	2076.1	2081.4	2095.5	2121.1
45°	920.0	1112.1	1163.2	1406.4	1662.8	1782.7	2012.7	1974.8	1973.9	1979.2	2006.5
47.5°	46.7	1046.0	1082.1	1160.5	1570.3	1574.7	1604.7	1856.7	1895.5	1883.1	1885.8
50°	31.7	72.3	1008.1	1044.2	1353.5	1462.8	1484.8	1496.3	1641.7	1803.8	1777.4
52.5°	24.7	41.4	617.7	969.3	1099.7	1179.9	1321.8	1402.9	1411.7	1476.9	1698.1
55°	22.0	31.7	67.0	894.4	935.0	952.6	1035.4	1177.3	1291.8	1326.2	1328.9
57.5°	19.4	29.1	45.8	404.5	850.4	853.9	868.0	917.3	1020.4	1114.7	1221.3
60°	17.6	25.6	36.1	69.6	772.8	781.6	784.3	797.5	809.8	874.2	996.6
62.5°	10.6	20.3	31.7	50.2	611.6	702.3	701.4	710.3	721.7	728.8	753.4
65°	8.8	15.9	27.3	42.3	74.9	93.4	567.5	630.9	638.0	647.7	652.1
67.5°	7.9	14.1	20.3	33.5	56.4	64.3	74.0	91.6	500.5	564.0	572.8
70°	7.0	9.7	16.7	28.2	45.8	49.3	55.5	63.4	74.9	92.5	452.9
72.5°	4.4	7.0	11.5	20.3	35.2	39.7	43.2	48.5	53.8	64.3	74.0
75°	1.8	5.3	9.7	15.0	27.3	30.0	32.6	36.1	40.5	47.6	52.9
77.5°	1.8	4.4	7.9	10.6	17.6	20.3	23.8	26.4	30.0	33.5	38.8
80°	6.2	3.5	5.3	7.9	12.3	13.2	15.0	16.7	19.4	22.0	25.6
82.5°	4.4	5.3	6.2	5.3	6.2	7.9	8.8	10.6	11.5	13.2	14.1
85°	3.5	3.5	4.4	4.4	4.4	4.4	4.4	4.4	5.3	6.2	7.9
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	167°	168°	169°	170°	171°	172°	173°	174°	175°	176°	177°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2926.5	2924.7	2919.4	2919.4	2918.5	2922.1	2924.7	2927.4	2926.5	2931.8	2926.5
5°	2948.5	2944.1	2936.2	2929.1	2926.5	2928.2	2925.6	2928.2	2924.7	2929.1	2921.2
7.5°	3009.3	2994.3	2963.5	2951.2	2935.3	2934.4	2926.5	2924.7	2919.4	2919.4	2909.7
10°	3116.8	3044.6	3035.7	2998.7	2985.5	2921.2	2935.3	2911.5	2908.9	2897.4	2893.0
12.5°	3204.9	3148.5	3131.8	3099.2	3062.2	2931.8	2960.8	2909.7	2907.1	2884.2	2860.4
15°	3206.7	3239.3	3193.5	3103.6	3095.7	3005.8	2946.7	2929.1	2906.2	2837.5	2848.9
17.5°	3103.6	3178.5	3200.5	3181.1	3124.7	3063.9	2981.1	2945.9	2877.1	2846.3	2825.1
20°	2936.2	3012.0	3106.2	3112.4	3147.7	3104.5	2996.1	2938.8	2856.0	2802.2	2784.6
22.5°	2803.1	2858.6	2967.0	3017.2	3060.4	3075.4	3006.7	2922.1	2819.0	2767.0	2756.4
25°	2732.6	2745.0	2777.6	2836.6	2931.8	3000.5	3010.2	2920.3	2866.6	2752.9	2693.0
27.5°	2707.1	2696.5	2683.3	2713.2	2784.6	2868.3	2923.8	2938.8	2804.9	2696.5	2636.6
30°	2641.9	2648.0	2627.8	2617.2	2663.9	2750.2	2848.9	2873.6	2770.5	2658.6	2589.9
32.5°	2561.7	2572.2	2575.8	2557.3	2547.6	2607.5	2714.1	2773.1	2767.9	2604.8	2528.2
35°	2461.2	2491.2	2499.1	2500.0	2484.1	2474.4	2536.1	2658.6	2705.3	2580.2	2469.1
37.5°	2355.5	2364.3	2407.4	2418.9	2418.9	2389.8	2435.6	2533.5	2598.7	2524.6	2396.9
40°	2223.3	2251.5	2292.0	2312.3	2332.5	2335.2	2309.6	2378.4	2485.9	2467.4	2329.0
42.5°	2127.2	2145.7	2170.4	2197.7	2239.1	2249.7	2223.3	2235.6	2347.5	2396.0	2240.9
45°	2015.3	2040.0	2047.0	2077.0	2120.2	2151.0	2150.1	2124.6	2214.5	2274.4	2176.6
47.5°	1900.8	1924.5	1936.9	1951.9	1983.6	2023.2	2045.3	2033.8	2051.4	2168.6	2091.1
50°	1782.7	1795.9	1820.6	1837.3	1858.5	1881.4	1934.2	1944.8	1920.1	2013.6	1996.8
52.5°	1670.8	1675.2	1691.9	1708.7	1736.9	1753.6	1795.9	1827.6	1825.9	1853.2	1891.9
55°	1583.5	1564.1	1567.7	1580.9	1599.4	1624.9	1648.7	1698.1	1714.8	1720.1	1781.8
57.5°	1237.2	1436.4	1454.0	1453.1	1475.1	1486.6	1508.6	1541.2	1601.1	1587.9	1656.7
60°	1124.4	1146.4	1313.0	1332.4	1340.3	1350.9	1377.3	1407.3	1451.3	1479.5	1509.5
62.5°	857.4	991.4	1041.6	1188.7	1211.7	1217.8	1235.4	1249.5	1295.4	1359.7	1347.4
65°	663.5	720.8	874.2	934.1	1059.2	1075.1	1099.7	1114.7	1127.9	1202.0	1205.5
67.5°	573.7	582.5	623.9	739.3	818.6	941.1	956.1	969.3	989.6	1042.5	1075.1
70°	489.9	500.5	512.0	521.7	624.8	705.8	819.5	823.9	837.1	872.4	946.4
72.5°	92.5	418.6	425.6	431.8	443.2	497.0	605.4	693.5	698.8	715.5	783.4
75°	62.6	73.1	100.5	345.4	356.9	360.4	378.9	489.1	570.1	573.7	603.6
77.5°	44.9	50.2	60.8	72.3	184.2	276.7	281.1	301.4	385.1	445.9	451.2
80°	30.8	34.4	40.5	45.8	56.4	74.0	204.4	210.6	221.2	304.9	320.8
82.5°	17.6	20.3	23.8	29.1	33.5	42.3	54.6	70.5	143.6	153.3	203.6
85°	8.8	9.7	11.5	14.1	16.7	20.3	27.3	33.5	45.8	82.8	85.5
87.5°	4.4	4.4	4.4	4.4	7.0	7.9	9.7	12.3	15.9	23.8	30.8
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-LD5-48HL-RM-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	178°	179°	180°	181°	182°	183°	184°	185°	186°	187°	188°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2927.4	2939.7	2950.3	2952.9	2952.9	2954.7	2957.3	2959.1	2960.8	2962.6	2960.8
5°	2922.1	2935.3	2944.1	2946.7	2946.7	2952.0	2956.4	2961.7	2964.4	2964.4	2962.6
7.5°	2908.9	2918.5	2930.0	2937.1	2937.9	2946.7	2954.7	2953.8	2957.3	2959.1	2963.5
10°	2891.2	2891.2	2910.6	2915.9	2920.3	2930.0	2932.6	2937.9	2950.3	2952.0	2963.5
12.5°	2882.4	2873.6	2896.5	2899.2	2914.1	2901.8	2917.7	2923.0	2910.6	2927.4	2905.3
15°	2842.8	2853.3	2849.8	2857.7	2884.2	2870.1	2913.3	2899.2	2930.9	2893.0	2960.0
17.5°	2810.2	2808.4	2822.5	2829.5	2834.8	2864.8	2876.3	2892.1	2904.4	2893.9	2920.3
20°	2786.4	2772.3	2782.8	2790.8	2809.3	2832.2	2839.2	2815.4	2856.9	2927.4	2944.1
22.5°	2741.4	2731.7	2744.1	2744.1	2772.3	2768.7	2795.2	2780.2	2819.0	2900.9	2986.4
25°	2680.6	2681.5	2694.7	2710.6	2715.9	2755.5	2769.6	2789.0	2837.5	2935.3	2987.3
27.5°	2618.9	2613.7	2621.6	2654.2	2681.5	2710.6	2715.0	2781.1	2847.2	2914.1	2960.0
30°	2557.3	2552.0	2557.3	2581.0	2613.7	2633.0	2681.5	2769.6	2831.3	2877.1	2920.3
32.5°	2491.2	2485.9	2498.2	2515.8	2573.1	2575.8	2671.8	2754.6	2803.1	2836.6	2828.7
35°	2420.7	2413.6	2425.1	2452.4	2505.3	2524.6	2625.1	2686.8	2741.4	2757.3	2720.3
37.5°	2336.1	2323.7	2337.8	2375.7	2431.2	2487.6	2571.4	2642.7	2671.8	2629.5	2585.5
40°	2248.0	2239.1	2263.8	2283.2	2348.4	2426.8	2522.9	2573.1	2554.6	2506.1	2457.7
42.5°	2169.5	2151.0	2173.0	2210.1	2284.1	2373.1	2450.6	2478.8	2434.8	2363.4	2307.0
45°	2073.5	2051.4	2077.9	2127.2	2206.5	2307.9	2368.7	2359.0	2284.1	2222.4	2144.9
47.5°	1973.0	1946.6	1973.0	2032.1	2121.1	2228.6	2272.6	2228.6	2134.3	2056.7	1994.2
50°	1874.3	1843.5	1869.0	1958.0	2045.3	2128.1	2127.2	2041.8	1985.4	1900.8	1846.1
52.5°	1776.5	1732.4	1758.0	1854.9	1942.2	2036.5	1966.8	1887.5	1819.7	1745.7	1728.0
55°	1655.8	1608.2	1642.6	1783.6	1850.5	1906.0	1795.0	1725.4	1658.4	1621.4	1599.4
57.5°	1541.2	1489.2	1519.2	1685.7	1735.1	1749.2	1647.0	1548.3	1508.6	1496.3	1464.6
60°	1423.1	1364.1	1392.3	1584.4	1618.8	1561.5	1461.0	1384.4	1376.4	1351.8	1327.1
62.5°	1310.4	1245.1	1262.8	1458.4	1474.3	1370.3	1277.7	1257.5	1238.1	1213.4	1200.2
65°	1180.8	1113.0	1137.6	1324.4	1309.5	1175.5	1123.5	1119.1	1093.6	1073.3	1092.7
67.5°	1061.9	981.7	1016.0	1178.2	1110.3	1001.0	979.9	969.3	949.1	960.5	757.0
70°	931.4	844.2	890.9	1020.4	920.0	847.7	839.8	823.9	824.8	655.6	552.5
72.5°	786.0	710.3	778.1	847.7	727.9	706.7	695.3	693.5	559.6	454.7	429.1
75°	658.3	581.6	654.7	681.2	579.8	565.7	564.9	467.0	367.5	350.7	342.8
77.5°	513.7	454.7	524.3	484.7	445.0	429.1	385.1	289.0	276.7	265.2	99.6
80°	346.3	350.7	391.3	334.0	317.2	270.5	213.3	204.4	176.2	70.5	55.5
82.5°	210.6	264.4	249.4	208.8	204.4	147.2	134.8	68.7	51.1	40.5	35.2
85°	109.3	133.9	128.7	113.7	84.6	75.8	42.3	32.6	26.4	20.3	16.7
87.5°	37.0	49.3	47.6	37.9	29.1	22.9	15.0	12.3	8.8	7.0	6.2
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	189°	190°	191°	192°	193°	194°	195°	196°	197°	198°	199°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2959.1	2959.1	2957.3	2959.1	2960.0	2958.2	2958.2	2960.0	2960.8	2961.7	2966.1
5°	2963.5	2965.3	2967.9	2973.2	2974.1	2984.6	2989.0	2991.7	2994.3	2995.2	2989.0
7.5°	2973.2	2979.4	2984.6	2983.8	2977.6	2960.8	2955.6	2951.2	2959.1	2979.4	3003.1
10°	2982.0	2953.8	2900.9	2973.2	2951.2	2971.4	3031.3	3044.6	3085.1	3142.4	3159.1
12.5°	2921.2	2998.7	3015.5	2934.4	3084.2	3028.7	3094.8	3152.9	3169.7	3227.9	3192.6
15°	2986.4	3024.3	3049.8	3130.9	3122.1	3169.7	3188.2	3176.7	3179.4	3194.4	3234.0
17.5°	2985.5	3061.3	3078.0	3132.7	3169.7	3170.6	3165.3	3160.0	3174.1	3185.6	3161.8
20°	3036.6	3061.3	3093.9	3115.9	3123.0	3131.8	3148.5	3135.3	3108.9	3083.3	3072.8
22.5°	3011.1	3066.6	3094.8	3098.3	3093.9	3066.6	3041.9	3004.9	2992.6	2979.4	2983.8
25°	3016.4	3041.9	3038.4	3024.3	3005.8	2954.7	2942.3	2926.5	2902.7	2845.4	2793.4
27.5°	2978.5	2965.3	2949.4	2915.0	2881.5	2854.2	2823.4	2772.3	2730.0	2668.3	2645.4
30°	2915.0	2862.2	2823.4	2803.1	2770.5	2724.7	2678.0	2615.4	2561.7	2549.3	2537.9
32.5°	2793.4	2741.4	2709.7	2660.4	2604.8	2550.2	2496.5	2471.8	2460.3	2462.1	2451.5
35°	2669.2	2623.3	2575.8	2501.7	2460.3	2405.7	2386.3	2381.0	2370.4	2359.0	2346.6
37.5°	2537.0	2483.2	2411.9	2367.8	2326.4	2304.3	2294.7	2286.7	2268.2	2248.0	2233.9
40°	2409.2	2312.3	2272.6	2229.4	2217.1	2207.4	2193.3	2173.9	2148.4	2144.9	2138.7
42.5°	2238.3	2168.6	2134.3	2125.5	2110.5	2093.7	2081.4	2060.3	2049.7	2056.7	2062.0
45°	2076.1	2040.9	2029.4	2018.8	1990.6	1966.8	1958.9	1951.9	1960.7	1999.5	1906.9
47.5°	1944.8	1930.7	1916.6	1899.0	1872.6	1854.9	1862.9	1869.9	1877.8	1593.2	1454.0
50°	1831.1	1811.8	1789.7	1770.3	1754.5	1752.7	1794.1	1669.9	1398.5	1391.4	1250.4
52.5°	1706.9	1677.8	1664.6	1653.1	1660.2	1686.6	1395.8	1295.4	1242.5	1079.5	1007.2
55°	1572.9	1547.4	1547.4	1558.0	1520.1	1231.9	1216.9	1052.2	952.6	924.4	912.9
57.5°	1439.0	1436.4	1451.3	1327.1	1118.2	1072.4	901.5	865.3	849.5	846.0	827.5
60°	1316.5	1341.2	1122.7	1032.8	897.9	809.8	785.2	780.7	764.0	757.8	741.1
62.5°	1218.7	1010.7	941.1	768.4	723.5	712.0	698.8	692.6	677.6	598.3	175.4
65°	880.3	831.9	675.0	645.9	642.4	625.7	620.4	557.8	131.3	88.1	74.9
67.5°	664.4	589.5	569.3	564.0	547.2	513.7	152.4	87.2	74.9	65.2	57.3
70°	510.2	497.0	482.0	469.7	138.3	86.4	74.9	63.4	54.6	48.5	44.1
72.5°	417.7	408.9	237.9	90.8	74.0	62.6	55.5	48.5	42.3	38.8	35.2
75°	326.9	90.8	74.9	62.6	53.8	45.8	40.5	36.1	32.6	30.0	27.3
77.5°	74.0	59.9	51.1	43.2	38.8	34.4	30.8	26.4	23.8	21.1	17.6
80°	45.8	39.7	33.5	30.8	26.4	22.0	19.4	17.6	14.1	13.2	11.5
82.5°	30.0	23.8	21.1	17.6	14.1	13.2	11.5	8.8	7.9	7.0	6.2
85°	13.2	11.5	9.7	7.9	6.2	5.3	4.4	3.5	3.5	3.5	3.5
87.5°	4.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8	1.8
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-LD5-48HL-RM-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	200°	205°	210°	215°	220°	225°	230°	235°	240°	245°	250°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2967.9	2983.8	2998.7	2994.3	2978.5	2953.8	2946.7	2937.1	2944.1	2959.1	2965.3
5°	2989.0	2980.2	3012.0	3058.7	3134.4	3141.5	3194.4	3206.7	3249.0	3275.4	3274.6
7.5°	3019.0	3144.1	3196.1	3252.5	3278.1	3271.9	3279.8	3273.7	3264.0	3259.6	3254.3
10°	3171.5	3266.6	3286.0	3286.0	3246.4	3192.6	3169.7	3130.0	3050.7	3052.5	3039.3
12.5°	3260.5	3293.9	3248.1	3209.3	3049.8	2988.2	2921.2	2889.5	2871.0	2842.8	2853.3
15°	3213.8	3166.2	3138.8	3013.7	2915.9	2804.9	2806.6	2787.2	2767.0	2768.7	2755.5
17.5°	3145.0	3107.1	2913.3	2826.9	2779.3	2736.1	2728.2	2702.7	2689.4	2685.0	2684.1
20°	3050.7	2914.1	2769.6	2748.5	2691.2	2641.9	2633.9	2641.9	2682.4	2610.1	2365.2
22.5°	2940.6	2744.1	2701.8	2641.9	2603.1	2583.7	2632.2	2411.9	2078.8	2119.3	2076.1
25°	2753.8	2668.3	2596.0	2550.2	2545.8	2426.8	2022.4	1980.1	1765.9	1651.4	1522.7
27.5°	2617.2	2580.2	2504.4	2496.5	2439.2	1984.5	1773.9	1541.2	1455.7	1442.5	1414.3
30°	2534.3	2481.5	2435.6	2235.6	1946.6	1597.6	1423.1	1390.5	1375.6	1359.7	1335.0
32.5°	2434.8	2384.5	2406.6	1879.6	1551.8	1375.6	1340.3	1316.5	1289.2	1278.6	1189.6
35°	2333.4	2310.5	1880.5	1580.0	1334.1	1291.8	1265.4	1240.7	986.9	238.8	81.1
37.5°	2225.0	2219.8	1690.1	1311.2	1249.5	1209.9	1135.0	234.4	55.5	37.9	28.2
40°	2140.4	1691.0	1335.9	1229.3	1179.1	1116.5	156.9	38.8	24.7	15.0	9.7
42.5°	2084.0	1521.0	1195.8	1153.5	1044.2	115.4	39.7	16.7	9.7	7.9	6.2
45°	1606.4	1201.1	1117.4	1073.3	132.2	39.7	22.9	7.9	6.2	5.3	3.5
47.5°	1482.2	1090.9	1041.6	234.4	44.1	21.1	15.9	5.3	3.5	3.5	3.5
50°	1122.7	1008.1	829.2	57.3	28.2	15.0	11.5	3.5	3.5	3.5	2.6
52.5°	984.3	930.6	89.0	37.9	22.0	11.5	7.0	2.6	2.6	2.6	2.6
55°	899.7	590.4	52.9	29.1	18.5	10.6	4.4	2.6	2.6	2.6	1.8
57.5°	823.0	79.3	38.8	24.7	16.7	9.7	2.6	2.6	2.6	2.6	1.8
60°	697.9	57.3	31.7	22.0	15.9	8.8	2.6	2.6	2.6	2.6	2.6
62.5°	90.8	44.9	27.3	19.4	11.5	7.0	1.8	2.6	2.6	2.6	2.6
65°	66.1	35.2	24.7	13.2	7.0	2.6	1.8	2.6	2.6	2.6	2.6
67.5°	51.1	29.1	18.5	11.5	6.2	1.8	1.8	2.6	2.6	2.6	2.6
70°	40.5	24.7	15.0	9.7	5.3	1.8	1.8	2.6	2.6	2.6	2.6
72.5°	31.7	17.6	10.6	5.3	3.5	1.8	1.8	2.6	2.6	2.6	2.6
75°	23.8	14.1	7.9	4.4	1.8	1.8	1.8	2.6	2.6	2.6	2.6
77.5°	15.9	8.8	6.2	3.5	3.5	3.5	4.4	4.4	2.6	2.6	2.6
80°	10.6	6.2	4.4	4.4	4.4	3.5	4.4	4.4	2.6	4.4	2.6
82.5°	5.3	4.4	4.4	3.5	3.5	2.6	3.5	3.5	3.5	3.5	2.6
85°	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	2.6
87.5°	1.8	1.8	1.8	1.8	2.6	2.6	2.6	2.6	3.5	3.5	2.6
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	255°	260°	265°	270°	275°	280°	285°	290°	295°	300°	305°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2957.3	2960.0	2952.9	2990.8	2971.4	2973.2	2981.1	2960.8	2965.3	2951.2	2941.5
5°	3278.1	3283.4	3288.7	3290.4	3293.9	3298.3	3293.1	3290.4	3285.1	3267.5	3249.0
7.5°	3227.9	3221.7	3219.0	3222.6	3228.7	3231.4	3227.0	3233.1	3256.0	3265.7	3271.9
10°	2963.5	2935.3	2954.7	2952.0	2930.0	3004.0	2983.8	2995.2	3003.1	3084.2	3133.6
12.5°	2837.5	2855.1	2821.6	2804.9	2826.9	2841.9	2856.9	2825.1	2869.2	2848.9	2914.1
15°	2731.7	2721.2	2717.6	2718.5	2714.1	2735.3	2740.5	2747.6	2753.8	2781.1	2791.7
17.5°	2684.1	2701.8	2708.8	2714.1	2705.3	2695.6	2685.9	2671.8	2676.2	2669.2	2689.4
20°	2200.4	2141.3	2137.8	2172.2	2134.3	2155.4	2206.5	2548.4	2537.0	2670.0	2625.1
22.5°	1836.4	1780.9	1733.3	1691.9	1751.0	1775.6	1870.8	1978.3	2152.8	2125.5	2314.9
25°	1499.8	1479.5	1467.2	1461.0	1465.4	1463.7	1484.8	1535.1	1614.4	1801.2	2042.6
27.5°	1402.9	1393.2	1388.8	1374.7	1385.3	1381.7	1398.5	1409.0	1432.8	1451.3	1529.8
30°	1326.2	1314.8	1306.8	1291.8	1302.4	1303.3	1308.6	1335.9	1345.6	1361.5	1386.1
32.5°	484.7	285.5	267.9	254.7	278.5	363.1	637.1	1113.8	1270.7	1283.0	1311.2
35°	47.6	39.7	35.2	35.2	36.1	39.7	52.9	139.2	254.7	984.3	1231.9
37.5°	18.5	15.9	13.2	12.3	13.2	15.0	20.3	26.4	36.1	74.9	334.0
40°	7.9	7.0	6.2	6.2	6.2	6.2	7.0	8.8	13.2	24.7	38.8
42.5°	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	6.2	7.9	15.9
45°	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	4.4	7.0
47.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5
50°	2.6	2.6	2.6	2.6	1.8	2.6	1.8	2.6	2.6	2.6	2.6
52.5°	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6	2.6
55°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6
57.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
60°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
62.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6	2.6	1.8
65°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6	1.8
67.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
70°	2.6	2.6	1.8	2.6	1.8	1.8	2.6	2.6	2.6	1.8	1.8
72.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	5.3	5.3	3.5
75°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	4.4	5.3	4.4
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	4.4	4.4	4.4
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	310°	315°	320°	325°	330°	335°	340°	341°	342°	343°	344°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2924.7	2923.8	2942.3	2956.4	2951.2	2956.4	2962.6	2963.5	2965.3	2958.2	2955.6
5°	3213.8	3186.4	3133.6	3095.7	3051.6	2971.4	2931.8	2936.2	2937.1	2934.4	2937.9
7.5°	3269.3	3266.6	3248.1	3240.2	3210.2	3152.9	3061.3	3045.4	3006.7	2982.0	2961.7
10°	3130.0	3193.5	3210.2	3238.4	3256.0	3245.5	3167.9	3156.5	3131.8	3103.6	3109.8
12.5°	2979.4	3031.3	3034.0	3187.3	3221.7	3225.2	3195.2	3211.1	3214.6	3151.2	3114.2
15°	2794.3	2819.0	2871.0	3013.7	3117.7	3182.9	3202.3	3211.1	3167.9	3165.3	3150.3
17.5°	2713.2	2729.1	2752.9	2833.1	2990.8	3086.9	3168.8	3162.6	3179.4	3167.0	3129.2
20°	2611.0	2624.2	2666.5	2707.1	2784.6	2912.4	3065.7	3077.2	3099.2	3096.6	3107.1
22.5°	2609.2	2562.5	2569.6	2601.3	2682.4	2796.9	2960.0	2997.9	3012.0	3021.6	3033.1
25°	2069.9	2440.9	2508.8	2529.1	2581.9	2648.9	2841.0	2855.1	2881.5	2924.7	2956.4
27.5°	1793.3	2045.3	2316.7	2457.7	2491.2	2546.7	2661.2	2682.4	2772.3	2782.8	2832.2
30°	1415.2	1610.0	2015.3	2354.6	2410.1	2448.9	2529.9	2572.2	2611.0	2653.3	2705.3
32.5°	1331.5	1362.3	1587.0	1948.3	2380.1	2351.1	2411.0	2436.5	2478.8	2515.8	2553.7
35°	1254.8	1276.0	1323.6	1595.9	1938.6	2270.9	2311.4	2328.1	2351.9	2380.1	2407.4
37.5°	1174.6	1206.4	1239.0	1312.1	1793.3	2207.4	2206.5	2225.9	2240.0	2263.8	2286.7
40°	213.3	1107.7	1160.5	1208.1	1390.5	1760.6	2107.8	2116.7	2126.3	2141.3	2165.1
42.5°	34.4	185.1	1087.4	1133.2	1185.2	1576.5	2062.9	2026.8	2020.6	2031.2	2052.3
45°	17.6	44.9	218.5	1058.3	1105.0	1257.5	1686.6	1964.2	1958.0	1937.8	1942.2
47.5°	13.2	28.2	53.8	365.7	1034.5	1079.5	1556.2	1539.5	1656.7	1881.4	1847.0
50°	11.5	19.4	31.7	74.9	913.8	994.0	1198.4	1400.2	1461.9	1469.8	1739.5
52.5°	10.6	13.2	22.9	48.5	192.1	919.1	974.6	1045.1	1149.1	1372.0	1366.7
55°	9.7	12.3	19.4	32.6	67.0	828.3	885.6	898.8	920.9	1027.5	1168.5
57.5°	5.3	11.5	18.5	28.2	50.2	151.6	803.7	814.2	831.9	836.3	886.5
60°	2.6	10.6	16.7	24.7	37.0	70.5	722.6	734.9	745.5	747.3	763.1
62.5°	1.8	9.7	14.1	22.9	30.8	50.2	171.0	349.0	663.5	663.5	682.1
65°	1.8	7.0	8.8	15.0	28.2	41.4	72.3	83.7	163.0	400.9	598.3
67.5°	1.8	2.6	7.9	12.3	21.1	31.7	52.9	61.7	74.0	84.6	156.9
70°	1.8	1.8	7.0	7.9	13.2	23.8	37.9	43.2	50.2	57.3	66.1
72.5°	1.8	1.8	6.2	6.2	8.8	15.9	29.1	31.7	36.1	40.5	46.7
75°	4.4	3.5	5.3	5.3	6.2	12.3	22.0	24.7	26.4	30.0	34.4
77.5°	4.4	4.4	4.4	4.4	4.4	7.9	14.1	15.9	18.5	20.3	23.8
80°	3.5	3.5	3.5	4.4	4.4	5.3	8.8	9.7	10.6	13.2	14.1
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	5.3	6.2	7.9
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	3.5	3.5
87.5°	2.6	2.6	2.6	1.8	1.8	2.6	2.6	2.6	2.6	2.6	2.6
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	345°	346°	347°	348°	349°	350°	351°	352°	353°	354°	355°
0°	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2954.7	2949.4	2945.0	2947.6	2939.7	2936.2	2938.8	2939.7	2941.5	2945.9	2946.7
5°	2946.7	2945.0	2952.9	2957.3	2955.6	2957.3	2957.3	2953.8	2948.5	2952.0	2944.1
7.5°	2941.5	2930.0	2921.2	2923.0	2914.1	2924.7	2934.4	2948.5	2952.9	2952.9	2944.1
10°	3032.2	3019.9	2970.5	2937.1	2915.0	2895.6	2941.5	2894.8	2916.8	2833.1	2929.1
12.5°	3107.1	3123.9	3101.8	3010.2	2994.3	2936.2	2969.7	2912.4	2895.6	2799.6	2830.4
15°	3137.1	3105.4	3098.3	3072.8	3038.4	3021.6	2931.8	2922.1	2894.8	2905.3	2864.8
17.5°	3110.7	3126.5	3105.4	3088.6	3053.4	3013.7	2960.0	2912.4	2874.5	2789.9	2861.3
20°	3085.1	3106.2	3042.8	3053.4	3056.9	3011.1	2982.9	2943.2	2895.6	2816.3	2754.6
22.5°	3042.8	3027.8	3033.1	3017.2	3004.0	3010.2	2971.4	2944.1	2863.9	2827.8	2744.1
25°	2974.1	2968.8	2982.9	2981.1	2949.4	2938.8	2919.4	2890.3	2858.6	2800.5	2731.7
27.5°	2862.2	2889.5	2914.1	2925.6	2908.9	2880.7	2870.1	2853.3	2831.3	2772.3	2721.2
30°	2744.1	2774.9	2803.1	2827.8	2842.8	2830.4	2820.7	2811.0	2777.6	2738.8	2681.5
32.5°	2609.2	2649.8	2688.6	2718.5	2751.1	2760.8	2753.8	2745.8	2717.6	2682.4	2636.6
35°	2453.3	2508.8	2565.2	2618.9	2633.0	2655.9	2678.9	2665.6	2650.7	2615.4	2573.1
37.5°	2321.1	2360.7	2401.3	2469.1	2518.5	2547.6	2588.1	2593.4	2567.8	2551.1	2495.6
40°	2184.5	2220.6	2279.7	2319.3	2387.2	2420.7	2463.8	2483.2	2477.1	2467.4	2418.9
42.5°	2077.0	2094.6	2133.4	2168.6	2235.6	2304.3	2342.2	2363.4	2385.4	2377.5	2352.8
45°	1962.4	1978.3	1991.5	2022.4	2087.6	2148.4	2195.1	2226.8	2266.5	2285.0	2255.0
47.5°	1848.8	1853.2	1869.0	1894.6	1933.4	1980.1	2058.5	2106.1	2143.1	2179.2	2159.8
50°	1761.5	1745.7	1748.3	1764.2	1795.9	1841.7	1898.1	1965.1	2007.4	2051.4	2055.8
52.5°	1539.5	1668.1	1637.3	1646.1	1662.8	1684.9	1743.9	1810.0	1862.0	1899.9	1937.8
55°	1291.8	1317.4	1565.0	1529.8	1540.3	1559.7	1587.0	1653.1	1703.4	1756.2	1809.1
57.5°	1001.9	1192.3	1202.0	1431.1	1425.8	1427.6	1450.5	1488.4	1538.6	1604.7	1649.6
60°	779.0	859.2	1015.1	1094.5	1295.4	1302.4	1315.6	1337.7	1380.8	1443.4	1514.8
62.5°	687.3	697.9	753.4	872.4	1002.8	1160.5	1188.7	1192.3	1211.7	1274.2	1357.1
65°	603.6	610.7	627.4	639.8	749.0	901.5	1037.2	1059.2	1071.5	1108.6	1179.1
67.5°	415.9	526.1	541.1	549.9	560.4	630.9	799.3	911.2	925.3	957.9	1019.6
70°	80.2	166.5	455.6	465.3	470.6	486.4	513.7	691.7	785.2	816.0	844.2
72.5°	54.6	64.3	77.5	183.3	387.7	396.5	402.7	425.6	583.4	673.2	688.2
75°	39.7	44.1	52.0	64.3	79.3	258.2	319.9	331.3	342.8	473.2	549.0
77.5°	28.2	31.7	35.2	41.4	48.5	62.6	89.9	247.6	259.1	265.2	374.5
80°	15.9	19.4	23.8	27.3	30.8	35.2	45.8	57.3	127.8	186.8	196.5
82.5°	8.8	10.6	12.3	15.0	16.7	21.1	25.6	30.8	40.5	59.9	126.9
85°	4.4	4.4	4.4	6.2	7.0	9.7	11.5	13.2	18.5	25.6	35.2
87.5°	2.6	2.6	3.5	3.5	3.5	4.4	4.4	4.4	5.3	7.9	11.5
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-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	356°	357°	358°	359°	360°
0°	2936.2	2936.2	2936.2	2936.2	2936.2
2.5°	2947.6	2945.0	2945.0	2955.6	2952.9
5°	2942.3	2939.7	2938.8	2950.3	2945.0
7.5°	2937.9	2928.2	2925.6	2936.2	2931.8
10°	2920.3	2913.3	2917.7	2914.1	2912.4
12.5°	2890.3	2885.9	2867.4	2869.2	2884.2
15°	2836.6	2854.2	2822.5	2850.7	2856.9
17.5°	2737.9	2777.6	2808.4	2825.1	2827.8
20°	2782.0	2795.2	2779.3	2780.2	2790.8
22.5°	2724.7	2730.9	2735.3	2730.0	2752.9
25°	2633.0	2609.2	2660.4	2670.9	2707.9
27.5°	2604.8	2585.5	2609.2	2607.5	2638.3
30°	2581.9	2519.4	2529.9	2546.7	2584.6
32.5°	2549.3	2450.6	2440.1	2477.1	2519.4
35°	2492.0	2398.6	2374.0	2397.8	2461.2
37.5°	2443.6	2326.4	2277.0	2308.8	2391.6
40°	2371.3	2270.0	2193.3	2221.5	2319.3
42.5°	2285.0	2221.5	2103.4	2122.8	2234.7
45°	2197.7	2141.3	2016.2	2025.9	2159.0
47.5°	2108.7	2056.7	1925.4	1927.2	2062.0
50°	2021.5	1952.7	1844.4	1813.5	1958.9
52.5°	1907.8	1844.4	1762.4	1712.2	1861.1
55°	1800.3	1728.9	1669.0	1591.5	1750.1
57.5°	1695.4	1616.1	1575.6	1476.0	1624.1
60°	1551.8	1513.9	1454.0	1358.8	1510.4
62.5°	1404.6	1392.3	1331.5	1232.8	1370.3
65°	1232.8	1261.9	1199.3	1114.7	1224.9
67.5°	1070.7	1122.7	1053.9	1001.9	1084.8
70°	897.9	957.9	919.1	900.6	935.8
72.5°	727.9	786.0	789.6	776.3	787.8
75°	562.2	626.5	661.8	641.5	644.2
77.5°	426.5	457.3	496.1	512.0	508.5
80°	263.5	317.2	349.0	381.6	370.1
82.5°	133.1	178.0	216.8	252.0	235.3
85°	55.5	71.4	99.6	131.3	126.0
87.5°	16.7	28.2	30.0	42.3	39.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)