

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-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-LD5-48HL-RM-UNV-L950-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
METALIC FINISH REFLECTOR
Light Source: -
Ballast/Driver: -

Summary

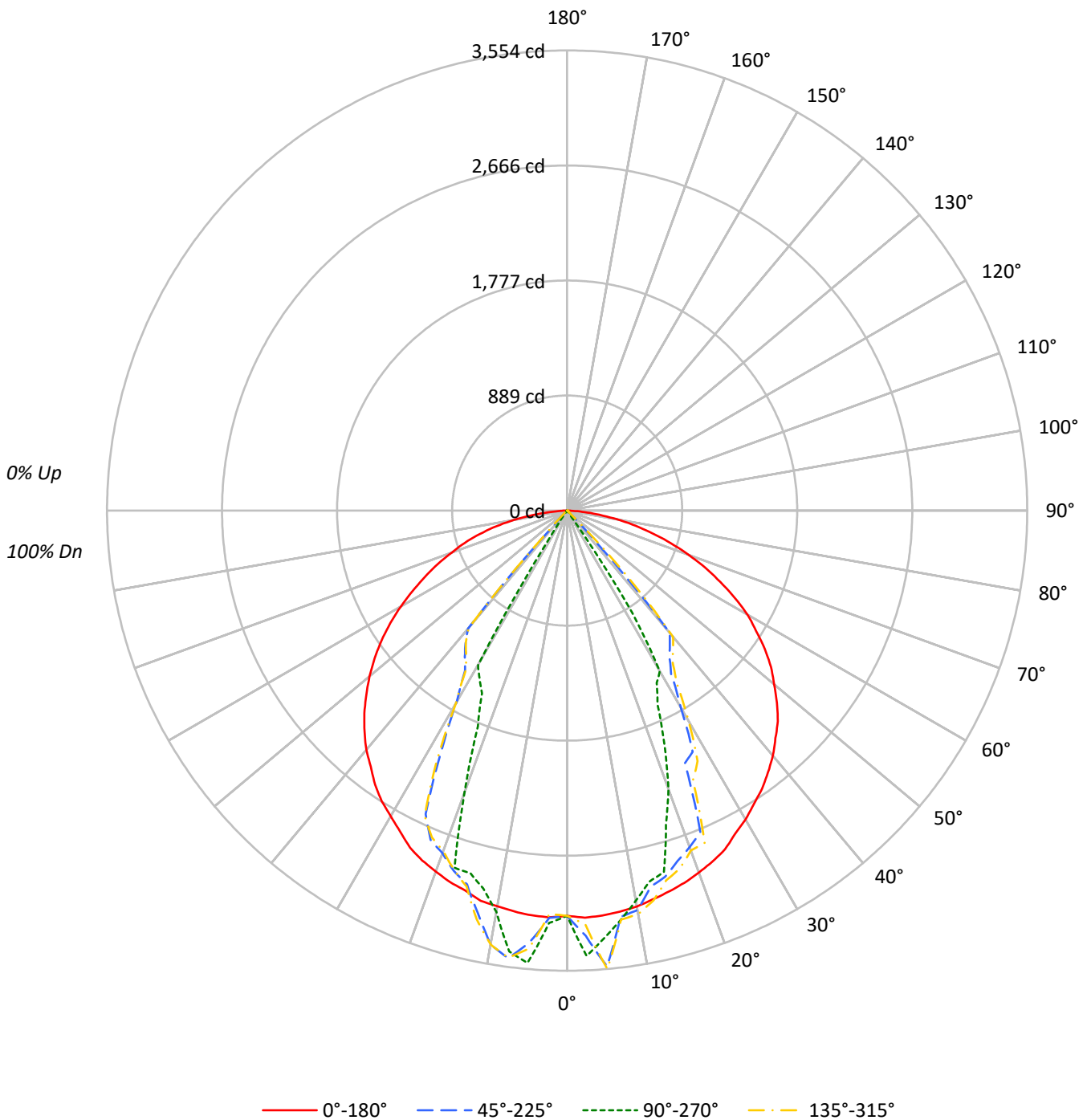
Lumens per Lamp: N/A
Luminaire Lumens: 4450.0 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 0.81 / 0.97
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

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



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°	25290	25290	25290	25290
5°	25394	26011	25386	27545
10°	25332	23537	25317	24216
15°	25263	21969	25201	22026
20°	25293	17304	25221	17517
25°	25366	12523	25242	11817
30°	25250	10985	24983	10560
35°	25325	242	24953	294
40°	25412	53	24803	53
45°	25502	32	24543	23
50°	25306	24	24145	24
55°	25157	17	23613	17
60°	24683	19	22753	19
65°	23397	30	21730	20
70°	21705	33	20662	33
75°	19198	36	19514	36
80°	15595	42	16484	42
85°	9175	49	9366	49



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	314.0	7.1
10°-20°	856.4	19.2
20°-30°	1089.8	24.5
30°-40°	920.6	20.7
40°-50°	601.9	13.5
50°-60°	379.2	8.5
60°-70°	201.9	4.5
70°-80°	73.6	1.7
80°-90°	12.7	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°	2260.2	50.8
0°-40°	3180.8	71.5
0°-60°	4161.9	93.5
0°-90°	4450.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4450.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3130	3130	3130	3130	3130	
5°	3139	3312	3138	3507	3139	298
15°	3045	2890	3038	2898	3045	861
25°	2886	1650	2872	1557	2886	1327
35°	2623	31	2585	38	2623	1641
45°	2301	4	2215	3	2301	1770
55°	1865	2	1751	2	1865	1662
65°	1306	3	1213	2	1306	1293
75°	687	3	698	3	687	729
85°	134	3	137	3	134	170
90°	0	0	0	0	0	



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3147.4	3149.3	3150.2	3152.1	3154.9	3155.9	3157.8	3155.9	3155.9	3155.9	3155.9
5°	3139.0	3142.7	3145.5	3149.3	3155.9	3156.8	3164.3	3165.3	3169.0	3176.5	3182.2
7.5°	3124.9	3128.6	3134.3	3143.7	3153.1	3163.4	3176.5	3190.6	3210.3	3229.1	3252.6
10°	3104.2	3108.9	3115.5	3123.9	3170.0	3176.5	3205.7	3246.0	3257.3	3316.5	3360.6
12.5°	3074.2	3090.1	3107.0	3114.5	3158.7	3228.2	3325.9	3306.2	3284.5	3478.0	3475.2
15°	3045.0	3066.6	3058.2	3119.2	3159.6	3280.8	3239.5	3327.8	3489.3	3449.9	3451.7
17.5°	3014.0	3018.7	3065.7	3116.4	3188.7	3250.7	3301.5	3422.6	3454.6	3457.4	3422.6
20°	2974.6	2997.1	3065.7	3111.7	3233.8	3262.9	3372.8	3434.8	3421.7	3389.7	3330.6
22.5°	2934.2	3002.8	3072.3	3137.1	3222.6	3300.5	3355.0	3384.1	3315.5	3189.7	3122.1
25°	2886.3	2926.7	3017.8	3112.7	3219.7	3264.8	3296.8	3249.8	3160.6	3047.9	2934.2
27.5°	2812.1	2876.9	2993.4	3100.5	3197.2	3251.7	3200.0	3087.3	2943.6	2869.4	2817.7
30°	2754.8	2839.3	2935.1	3038.5	3139.0	3170.9	3039.4	2910.7	2812.1	2737.9	2726.6
32.5°	2685.3	2805.5	2896.6	2995.3	3079.8	3037.5	2909.8	2743.5	2661.8	2633.7	2644.9
35°	2623.3	2714.4	2833.7	2930.5	2991.5	2896.6	2694.7	2591.4	2551.9	2567.9	2547.2
37.5°	2549.1	2669.3	2779.2	2862.8	2842.2	2699.4	2528.5	2462.7	2467.4	2454.3	2414.8
40°	2472.1	2586.7	2701.3	2780.2	2707.9	2489.9	2376.3	2362.2	2365.0	2322.8	2266.4
42.5°	2381.9	2486.2	2600.8	2672.2	2516.2	2346.2	2269.2	2271.1	2246.7	2187.5	2157.5
45°	2301.2	2397.0	2516.2	2522.8	2331.2	2189.4	2166.8	2142.4	2087.9	2068.2	2045.7
47.5°	2197.8	2304.0	2402.6	2366.9	2149.9	2061.6	2044.7	1991.2	1964.0	1948.9	1930.2
50°	2087.9	2195.0	2285.2	2183.8	1979.0	1958.3	1902.9	1860.6	1841.9	1825.9	1809.0
52.5°	1983.7	2072.0	2164.0	1989.3	1847.5	1827.8	1764.8	1740.4	1721.6	1703.8	1700.0
55°	1865.3	1943.3	2006.2	1804.3	1721.6	1675.6	1630.5	1613.6	1595.8	1587.3	1601.4
57.5°	1731.0	1819.3	1809.9	1622.1	1585.4	1518.8	1501.9	1490.6	1477.4	1483.1	1365.7
60°	1609.9	1677.5	1631.5	1488.7	1426.7	1381.6	1366.6	1359.1	1366.6	1252.0	1100.8
62.5°	1460.5	1536.6	1443.6	1332.8	1267.0	1245.4	1232.3	1242.6	1132.7	1006.9	970.2
65°	1305.6	1388.2	1251.1	1165.6	1124.3	1105.5	1104.6	1017.2	909.2	860.4	860.4
67.5°	1156.2	1241.7	1065.1	993.7	977.8	979.6	925.2	792.7	762.7	729.8	634.9
70°	997.5	1072.6	880.1	836.9	827.5	820.9	688.5	652.8	617.1	529.7	522.2
72.5°	839.7	876.3	707.3	696.9	695.0	577.6	551.3	490.3	449.0	438.6	433.9
75°	686.6	675.3	558.9	568.2	479.0	437.7	395.4	359.7	354.1	350.3	87.4
77.5°	541.9	485.6	440.5	383.2	342.8	291.2	282.7	277.1	182.2	65.7	53.5
80°	394.5	314.6	293.0	248.9	212.3	203.8	208.5	63.9	50.7	42.3	36.6
82.5°	250.8	201.0	164.4	143.7	139.9	61.1	45.1	36.6	31.9	27.2	22.5
85°	134.3	89.2	82.7	69.5	41.3	28.2	23.5	17.8	15.0	12.2	11.3
87.5°	42.3	35.7	29.1	23.5	14.1	9.4	7.5	6.6	5.6	4.7	4.7
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°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3154.0	3155.9	3154.9	3157.8	3157.8	3161.5	3164.3	3167.1	3172.8	3175.6	3197.2
5°	3194.4	3199.1	3213.2	3226.3	3242.3	3247.0	3274.2	3280.8	3312.7	3316.5	3421.7
7.5°	3284.5	3302.4	3336.2	3370.0	3403.8	3425.4	3463.0	3486.5	3511.8	3534.4	3618.0
10°	3393.5	3423.6	3456.4	3490.2	3510.0	3551.3	3573.8	3577.6	3571.0	3534.4	3399.1
12.5°	3500.6	3530.6	3516.5	3523.1	3546.6	3473.3	3483.7	3431.1	3467.7	3286.4	3152.1
15°	3485.5	3483.7	3448.9	3336.2	3355.0	3215.0	3158.7	3115.5	3150.2	3131.5	3110.8
17.5°	3440.5	3355.0	3294.9	3159.6	3102.3	3062.9	3063.8	3064.8	3047.9	3065.7	3013.1
20°	3249.8	3154.0	3064.8	3016.9	3000.0	2971.8	2985.9	2971.8	2972.7	2978.4	2897.6
22.5°	2996.2	2967.1	2915.4	2930.5	2924.8	2950.2	2931.4	2902.3	2911.7	2869.4	2808.4
25°	2893.8	2860.0	2858.1	2863.8	2855.3	2844.0	2827.1	2783.0	2780.2	2767.0	2738.8
27.5°	2790.5	2792.4	2798.0	2781.1	2751.1	2728.5	2703.2	2681.6	2690.0	2675.0	2636.5
30°	2719.1	2718.2	2684.4	2669.3	2613.9	2614.9	2608.3	2595.1	2586.7	2587.6	2563.2
32.5°	2617.7	2588.6	2550.1	2531.3	2526.6	2509.7	2496.5	2499.3	2505.9	2482.4	2507.8
35°	2513.4	2453.3	2447.7	2431.7	2416.7	2405.4	2410.1	2391.3	2390.4	2387.6	2180.9
37.5°	2373.5	2344.4	2341.5	2324.6	2314.3	2311.5	2293.6	2296.5	2304.9	2319.9	1859.7
40°	2258.0	2231.7	2225.1	2224.1	2201.6	2199.7	2204.4	2222.3	2234.5	2140.5	1772.4
42.5°	2134.0	2135.8	2115.2	2102.0	2104.9	2113.3	2135.8	2073.9	1796.8	1712.2	1620.2
45°	2027.8	2018.4	2007.2	2003.4	2027.8	2010.9	1763.0	1626.8	1593.9	1590.1	1331.9
47.5°	1917.0	1914.2	1909.5	1912.3	1773.3	1580.8	1524.4	1506.6	1512.2	1508.4	1144.0
50°	1805.2	1809.0	1809.0	1579.8	1450.2	1418.3	1423.0	1438.9	1339.4	1250.1	1066.0
52.5°	1708.5	1679.4	1438.9	1356.3	1327.2	1341.2	1307.4	1182.5	1092.3	1039.7	986.2
55°	1529.1	1314.9	1261.4	1248.3	1258.6	1133.7	1056.7	975.9	952.4	946.8	915.8
57.5°	1203.2	1160.0	1164.7	1112.1	992.8	922.3	891.3	880.1	869.7	862.2	75.1
60°	1064.2	1076.4	985.3	872.6	824.7	815.3	807.8	797.4	795.5	782.4	47.9
62.5°	974.0	856.6	777.7	749.5	738.2	735.4	721.3	716.6	608.6	83.6	35.7
65°	734.5	686.6	671.6	665.0	652.8	652.8	541.9	85.5	69.5	60.1	31.9
67.5°	599.2	595.5	588.0	579.5	394.5	82.7	72.3	62.9	54.5	47.9	28.2
70°	507.2	505.3	460.2	84.5	70.4	62.0	54.5	48.8	45.1	40.4	25.4
72.5°	416.1	84.5	71.4	62.0	53.5	48.8	44.1	39.4	35.7	32.9	20.7
75°	64.8	57.3	50.7	46.0	42.3	37.6	33.8	31.0	30.1	26.3	14.1
77.5°	47.0	40.4	36.6	32.9	29.1	26.3	22.5	19.7	17.8	15.0	10.3
80°	32.9	29.1	26.3	21.6	18.8	16.0	14.1	12.2	11.3	9.4	4.7
82.5°	18.8	16.0	14.1	11.3	10.3	8.5	7.5	6.6	6.6	4.7	4.7
85°	8.5	8.5	6.6	5.6	4.7	4.7	4.7	3.8	3.8	2.8	2.8
87.5°	3.8	3.8	3.8	3.8	3.8	2.8	2.8	2.8	2.8	2.8	1.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3227.3	3239.5	3262.9	3287.4	3260.1	3357.8	3350.3	3383.2	3401.0	3409.5	3429.2
5°	3514.7	3569.1	3587.0	3533.4	3502.5	3470.5	3398.2	3343.7	3350.3	3332.5	3267.6
7.5°	3509.0	3392.6	3235.7	3164.3	3158.7	3150.2	3172.8	3185.9	3187.8	3186.9	3185.0
10°	3212.2	3152.1	3141.8	3132.4	3136.1	3101.4	3085.4	3040.3	3064.8	3051.6	3056.3
12.5°	3122.1	3108.0	3052.6	2975.5	3021.6	2986.8	2967.1	2980.2	2965.2	2951.1	2946.4
15°	3068.5	2977.4	2946.4	2927.6	2914.5	2907.0	2913.5	2898.5	2893.8	2891.0	2897.6
17.5°	2957.7	2921.1	2887.2	2837.5	2838.4	2835.6	2854.4	2882.6	2884.4	2739.8	2609.2
20°	2870.3	2840.3	2797.1	2766.1	2808.4	2733.2	2443.0	2304.9	2283.3	2283.3	2287.1
22.5°	2800.8	2734.1	2737.0	2688.1	2292.7	2211.9	2213.8	2222.3	2183.8	2052.3	2038.2
25°	2706.0	2695.6	2489.9	2151.8	2154.6	2091.7	1995.0	1858.8	1711.3	1711.3	1686.9
27.5°	2634.6	2415.7	2115.2	2101.1	1889.8	1756.4	1673.7	1548.8	1531.9	1515.9	1517.8
30°	2573.5	2043.8	2051.3	1756.4	1600.5	1489.6	1483.1	1462.4	1452.1	1449.3	1438.9
32.5°	2034.4	1990.3	1716.9	1495.3	1434.2	1416.4	1407.9	1384.5	1383.5	1365.7	1241.7
35°	1907.6	1747.0	1437.0	1376.9	1359.1	1342.2	1328.1	891.3	105.2	42.3	36.6
37.5°	1763.0	1459.6	1329.0	1301.8	1284.9	949.6	94.9	32.9	23.5	16.9	15.0
40°	1494.3	1303.7	1262.3	1232.3	508.1	32.9	20.7	16.0	9.4	8.5	7.5
42.5°	1260.5	1228.5	1184.4	360.7	37.6	16.0	10.3	7.5	6.6	6.6	5.6
45°	1179.7	1151.5	477.1	35.7	23.5	7.5	6.6	6.6	5.6	3.8	3.8
47.5°	1104.6	972.1	43.2	22.5	15.0	6.6	5.6	3.8	3.8	3.8	2.8
50°	1024.7	53.5	30.1	16.9	9.4	3.8	3.8	3.8	3.8	2.8	2.8
52.5°	191.6	37.6	24.4	15.0	4.7	3.8	3.8	3.8	2.8	2.8	2.8
55°	45.1	30.1	22.5	13.1	3.8	3.8	3.8	2.8	2.8	2.8	1.9
57.5°	33.8	22.5	17.8	12.2	3.8	2.8	2.8	2.8	2.8	2.8	1.9
60°	28.2	16.0	14.1	11.3	2.8	2.8	2.8	2.8	2.8	2.8	1.9
62.5°	19.7	13.1	10.3	8.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8
65°	16.0	10.3	8.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
67.5°	14.1	8.5	5.6	1.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8
70°	11.3	2.8	2.8	1.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8
72.5°	9.4	2.8	1.9	1.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	9.4	4.7	1.9	1.9	2.8	2.8	3.8	3.8	2.8	2.8	2.8
77.5°	6.6	4.7	1.9	1.9	2.8	2.8	3.8	3.8	2.8	2.8	2.8
80°	3.8	4.7	1.9	2.8	2.8	5.6	6.6	3.8	2.8	2.8	2.8
82.5°	3.8	4.7	5.6	5.6	2.8	4.7	5.6	4.7	3.8	2.8	2.8
85°	3.8	2.8	3.8	4.7	2.8	4.7	4.7	3.8	3.8	2.8	2.8
87.5°	1.9	2.8	2.8	3.8	3.8	3.8	4.7	3.8	3.8	3.8	2.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3438.6	3442.3	3383.2	3362.5	3380.4	3376.6	3360.6	3301.5	3294.9	3255.4	3198.1
5°	3286.4	3311.8	3280.8	3334.3	3309.0	3334.3	3411.3	3447.0	3505.3	3541.0	3554.1
7.5°	3180.3	3185.9	3185.9	3190.6	3195.3	3196.3	3190.6	3186.9	3170.9	3151.2	3186.9
10°	3051.6	3058.2	3069.5	3067.6	3066.6	3086.4	3091.1	3131.5	3129.6	3137.1	3164.3
12.5°	2984.9	2934.2	2980.2	2968.0	2984.9	2958.6	3007.5	2999.0	3001.8	3024.4	3082.6
15°	2874.1	2890.1	2901.3	2901.3	2907.9	2902.3	2896.6	2935.1	2958.6	2959.6	2955.8
17.5°	2660.9	2539.7	2663.7	2631.8	2886.3	2892.9	2871.3	2853.4	2853.4	2867.5	2897.6
20°	2284.3	2287.1	2288.0	2300.2	2315.2	2314.3	2315.2	2685.3	2860.9	2820.6	2793.3
22.5°	2002.5	1967.7	2032.5	2027.8	2108.6	2197.8	2283.3	2274.9	2280.5	2541.6	2776.4
25°	1605.2	1650.3	1613.6	1629.6	1720.7	1826.8	1892.6	2064.5	2251.4	2238.2	2299.3
27.5°	1511.2	1499.0	1515.9	1515.9	1528.2	1542.2	1578.9	1675.6	1841.9	2016.6	2181.9
30°	1422.0	1432.4	1434.2	1451.1	1460.5	1469.9	1475.6	1512.2	1549.8	1670.9	1874.7
32.5°	1067.9	936.4	1232.3	1312.1	1379.8	1395.7	1407.0	1422.0	1449.3	1467.1	1569.5
35°	31.0	31.0	32.9	37.6	47.9	323.1	1230.4	1356.3	1374.1	1396.7	1415.4
37.5°	15.0	11.3	13.1	14.1	16.9	23.5	33.8	105.2	1171.2	1324.3	1345.0
40°	6.6	6.6	6.6	6.6	7.5	9.4	14.1	23.5	35.7	942.1	1270.8
42.5°	5.6	5.6	5.6	5.6	5.6	5.6	6.6	8.5	16.9	40.4	666.9
45°	3.8	3.8	2.8	3.8	3.8	4.7	5.6	5.6	7.5	25.4	46.0
47.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.7	5.6	16.9	24.4
50°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	13.1	16.9
52.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	5.6	15.0
55°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	2.8	3.8	13.1
57.5°	1.9	1.9	1.9	1.9	1.9	2.8	1.9	1.9	2.8	2.8	12.2
60°	1.9	1.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	2.8	11.3
62.5°	2.8	2.8	1.9	2.8	1.9	1.9	2.8	2.8	2.8	2.8	7.5
65°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	2.8
67.5°	2.8	2.8	2.8	2.8	1.9	2.8	1.9	2.8	2.8	1.9	1.9
70°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9
75°	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	1.9	1.9	1.9
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	4.7	5.6	4.7	4.7	1.9
80°	2.8	2.8	2.8	2.8	2.8	2.8	4.7	4.7	4.7	4.7	6.6
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	3.8	3.8	4.7
85°	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	3.8	2.8	3.8
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	2.8	2.8	2.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	140°	145°	150°	155°	160°	161°	162°	163°	164°	165°	166°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3202.8	3170.9	3160.6	3139.0	3137.1	3139.0	3134.3	3127.7	3131.5	3124.9	3119.2
5°	3561.6	3476.2	3420.7	3346.5	3244.2	3221.6	3216.0	3184.0	3172.8	3169.0	3154.0
7.5°	3271.4	3427.3	3521.2	3553.2	3432.9	3404.8	3371.9	3345.6	3320.2	3272.3	3243.2
10°	3142.7	3150.2	3240.4	3345.6	3516.5	3540.0	3557.9	3500.6	3484.6	3362.5	3336.2
12.5°	3112.7	3113.6	3123.9	3187.8	3322.1	3337.1	3400.1	3433.9	3475.2	3498.7	3479.9
15°	2975.5	3051.6	3108.0	3113.6	3125.8	3152.1	3170.9	3288.3	3338.1	3471.5	3463.9
17.5°	2911.7	2936.1	3017.8	3084.5	3073.2	3063.8	3078.9	3094.8	3142.7	3276.1	3274.2
20°	2805.5	2883.5	2927.6	2997.1	3060.1	3062.9	3046.0	3036.6	3017.8	3039.4	3059.1
22.5°	2760.4	2772.7	2855.3	2904.2	2975.5	3000.9	3004.7	3005.6	2995.3	2984.0	2978.4
25°	2755.8	2717.2	2759.5	2820.6	2873.2	2900.4	2931.4	2941.7	2938.0	2938.0	2932.3
27.5°	2255.1	2705.0	2682.5	2722.9	2786.7	2805.5	2821.5	2853.4	2873.2	2887.2	2893.8
30°	2148.1	2228.8	2622.4	2628.0	2692.8	2690.9	2708.8	2735.1	2760.4	2793.3	2801.8
32.5°	1900.1	2098.3	2400.7	2533.2	2600.8	2607.4	2616.7	2624.3	2647.7	2684.4	2716.3
35°	1522.5	1911.4	2057.0	2488.1	2500.3	2513.4	2519.1	2536.9	2544.4	2559.4	2587.6
37.5°	1377.9	1579.8	1973.4	2151.8	2384.7	2396.0	2426.1	2433.6	2445.8	2458.0	2479.6
40°	1294.3	1349.7	1642.7	1921.7	2291.8	2299.3	2309.6	2328.4	2329.3	2343.4	2363.1
42.5°	1227.6	1263.3	1348.8	1835.3	2226.0	2225.1	2200.7	2212.9	2218.5	2233.5	2260.8
45°	980.6	1185.3	1239.8	1499.0	1772.4	1900.1	2145.2	2104.9	2103.9	2109.6	2138.7
47.5°	49.8	1114.9	1153.4	1237.0	1673.7	1678.4	1710.4	1979.0	2020.3	2007.2	2010.0
50°	33.8	77.0	1074.5	1113.0	1442.7	1559.2	1582.6	1594.8	1749.8	1922.6	1894.5
52.5°	26.3	44.1	658.4	1033.2	1172.2	1257.7	1408.9	1495.3	1504.7	1574.2	1809.9
55°	23.5	33.8	71.4	953.3	996.5	1015.3	1103.6	1254.8	1376.9	1413.6	1416.4
57.5°	20.7	31.0	48.8	431.1	906.4	910.1	925.2	977.8	1087.6	1188.1	1301.8
60°	18.8	27.2	38.5	74.2	823.7	833.1	835.9	850.0	863.2	931.7	1062.3
62.5°	11.3	21.6	33.8	53.5	651.8	748.6	747.6	757.0	769.2	776.8	803.1
65°	9.4	16.9	29.1	45.1	79.8	99.6	604.9	672.5	680.0	690.3	695.0
67.5°	8.5	15.0	21.6	35.7	60.1	68.6	78.9	97.7	533.5	601.1	610.5
70°	7.5	10.3	17.8	30.1	48.8	52.6	59.2	67.6	79.8	98.6	482.8
72.5°	4.7	7.5	12.2	21.6	37.6	42.3	46.0	51.7	57.3	68.6	78.9
75°	1.9	5.6	10.3	16.0	29.1	31.9	34.8	38.5	43.2	50.7	56.4
77.5°	1.9	4.7	8.5	11.3	18.8	21.6	25.4	28.2	31.9	35.7	41.3
80°	6.6	3.8	5.6	8.5	13.1	14.1	16.0	17.8	20.7	23.5	27.2
82.5°	4.7	5.6	6.6	5.6	6.6	8.5	9.4	11.3	12.2	14.1	15.0
85°	3.8	3.8	4.7	4.7	4.7	4.7	4.7	4.7	5.6	6.6	8.5
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	167°	168°	169°	170°	171°	172°	173°	174°	175°	176°	177°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3119.2	3117.4	3111.7	3111.7	3110.8	3114.5	3117.4	3120.2	3119.2	3124.9	3119.2
5°	3142.7	3138.0	3129.6	3122.1	3119.2	3121.1	3118.3	3121.1	3117.4	3122.1	3113.6
7.5°	3207.5	3191.6	3158.7	3145.5	3128.6	3127.7	3119.2	3117.4	3111.7	3111.7	3101.4
10°	3322.1	3245.1	3235.7	3196.3	3182.2	3113.6	3128.6	3103.3	3100.5	3088.2	3083.5
12.5°	3416.0	3355.9	3338.1	3303.3	3263.9	3124.9	3155.9	3101.4	3098.6	3074.2	3048.8
15°	3417.9	3452.7	3403.8	3308.0	3299.6	3203.8	3140.8	3122.1	3097.6	3024.4	3036.6
17.5°	3308.0	3387.9	3411.3	3390.7	3330.6	3265.8	3177.5	3139.9	3066.6	3033.8	3011.2
20°	3129.6	3210.3	3310.8	3317.4	3355.0	3309.0	3193.4	3132.4	3044.1	2986.8	2968.0
22.5°	2987.7	3046.9	3162.4	3216.0	3262.0	3278.0	3204.7	3114.5	3004.7	2949.2	2938.0
25°	2912.6	2925.8	2960.5	3023.4	3124.9	3198.1	3208.5	3112.7	3055.4	2934.2	2870.3
27.5°	2885.4	2874.1	2860.0	2891.9	2968.0	3057.3	3116.4	3132.4	2989.6	2874.1	2810.2
30°	2815.9	2822.4	2800.8	2789.6	2839.3	2931.4	3036.6	3062.9	2953.0	2833.7	2760.4
32.5°	2730.4	2741.7	2745.4	2725.7	2715.4	2779.2	2892.9	2955.8	2950.2	2776.4	2694.7
35°	2623.3	2655.3	2663.7	2664.6	2647.7	2637.4	2703.2	2833.7	2883.5	2750.1	2631.8
37.5°	2510.6	2520.0	2566.0	2578.2	2578.2	2547.2	2596.1	2700.3	2769.8	2690.9	2554.8
40°	2369.7	2399.8	2443.0	2464.6	2486.2	2489.0	2461.8	2535.0	2649.6	2629.9	2482.4
42.5°	2267.3	2287.1	2313.4	2342.5	2386.6	2397.9	2369.7	2382.9	2502.2	2553.8	2388.5
45°	2148.1	2174.4	2181.9	2213.8	2259.8	2292.7	2291.8	2264.5	2360.3	2424.2	2319.9
47.5°	2026.0	2051.3	2064.5	2080.4	2114.2	2156.5	2180.0	2167.8	2186.6	2311.5	2228.8
50°	1900.1	1914.2	1940.5	1958.3	1980.9	2005.3	2061.6	2072.9	2046.6	2146.2	2128.3
52.5°	1780.8	1785.5	1803.4	1821.2	1851.3	1869.1	1914.2	1948.0	1946.1	1975.2	2016.6
55°	1687.8	1667.2	1670.9	1685.0	1704.7	1732.0	1757.3	1809.9	1827.8	1833.4	1899.2
57.5°	1318.7	1531.0	1549.8	1548.8	1572.3	1584.5	1608.0	1642.7	1706.6	1692.5	1765.8
60°	1198.5	1222.0	1399.5	1420.1	1428.6	1439.9	1468.0	1500.0	1546.9	1577.0	1608.9
62.5°	913.9	1056.7	1110.2	1267.0	1291.5	1298.0	1316.8	1331.9	1380.7	1449.3	1436.1
65°	707.3	768.3	931.7	995.6	1129.0	1145.9	1172.2	1188.1	1202.2	1281.1	1284.9
67.5°	611.5	620.8	665.0	788.0	872.6	1003.1	1019.1	1033.2	1054.8	1111.1	1145.9
70°	522.2	533.5	545.7	556.0	665.9	752.3	873.5	878.2	892.3	929.9	1008.8
72.5°	98.6	446.1	453.7	460.2	472.4	529.7	645.3	739.2	744.8	762.7	835.0
75°	66.7	78.0	107.1	368.2	380.4	384.2	403.9	521.3	607.7	611.5	643.4
77.5°	47.9	53.5	64.8	77.0	196.3	294.9	299.6	321.2	410.5	475.3	480.9
80°	32.9	36.6	43.2	48.8	60.1	78.9	217.9	224.5	235.8	325.0	341.9
82.5°	18.8	21.6	25.4	31.0	35.7	45.1	58.2	75.1	153.1	163.4	217.0
85°	9.4	10.3	12.2	15.0	17.8	21.6	29.1	35.7	48.8	88.3	91.1
87.5°	4.7	4.7	4.7	4.7	7.5	8.5	10.3	13.1	16.9	25.4	32.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-RM-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	178°	179°	180°	181°	182°	183°	184°	185°	186°	187°	188°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3120.2	3133.3	3144.6	3147.4	3147.4	3149.3	3152.1	3154.0	3155.9	3157.8	3155.9
5°	3114.5	3128.6	3138.0	3140.8	3140.8	3146.5	3151.2	3156.8	3159.6	3159.6	3157.8
7.5°	3100.5	3110.8	3123.0	3130.5	3131.5	3140.8	3149.3	3148.4	3152.1	3154.0	3158.7
10°	3081.7	3081.7	3102.3	3108.0	3112.7	3123.0	3125.8	3131.5	3144.6	3146.5	3158.7
12.5°	3072.3	3062.9	3087.3	3090.1	3106.1	3092.9	3109.8	3115.5	3102.3	3120.2	3096.7
15°	3030.0	3041.3	3037.5	3046.0	3074.2	3059.1	3105.2	3090.1	3123.9	3083.5	3154.9
17.5°	2995.3	2993.4	3008.4	3015.9	3021.6	3053.5	3065.7	3082.6	3095.8	3084.5	3112.7
20°	2969.9	2954.9	2966.1	2974.6	2994.3	3018.7	3026.3	3000.9	3045.0	3120.2	3138.0
22.5°	2922.0	2911.7	2924.8	2924.8	2954.9	2951.1	2979.3	2963.3	3004.7	3092.0	3183.1
25°	2857.2	2858.1	2872.2	2889.1	2894.8	2937.0	2952.1	2972.7	3024.4	3128.6	3184.0
27.5°	2791.4	2785.8	2794.3	2829.0	2858.1	2889.1	2893.8	2964.3	3034.7	3106.1	3154.9
30°	2725.7	2720.1	2725.7	2751.1	2785.8	2806.5	2858.1	2952.1	3017.8	3066.6	3112.7
32.5°	2655.3	2649.6	2662.8	2681.6	2742.6	2745.4	2847.8	2936.1	2987.7	3023.4	3015.0
35°	2580.1	2572.6	2584.8	2613.9	2670.3	2690.9	2798.0	2863.8	2922.0	2938.9	2899.5
37.5°	2489.9	2476.8	2491.8	2532.2	2591.4	2651.5	2740.7	2816.8	2847.8	2802.7	2755.8
40°	2396.0	2386.6	2412.9	2433.6	2503.1	2586.7	2689.1	2742.6	2722.9	2671.2	2619.6
42.5°	2312.4	2292.7	2316.2	2355.6	2434.5	2529.4	2612.0	2642.1	2595.1	2519.1	2459.0
45°	2210.0	2186.6	2214.7	2267.3	2351.9	2459.9	2524.7	2514.4	2434.5	2368.8	2286.1
47.5°	2103.0	2074.8	2103.0	2165.9	2260.8	2375.4	2422.3	2375.4	2274.9	2192.2	2125.5
50°	1997.8	1964.9	1992.1	2087.0	2180.0	2268.3	2267.3	2176.2	2116.1	2026.0	1967.7
52.5°	1893.5	1846.6	1873.8	1977.1	2070.1	2170.6	2096.4	2011.9	1939.5	1860.6	1841.9
55°	1764.8	1714.1	1750.8	1901.0	1972.4	2031.6	1913.2	1839.0	1767.7	1728.2	1704.7
57.5°	1642.7	1587.3	1619.3	1796.8	1849.4	1864.4	1755.5	1650.3	1608.0	1594.8	1561.0
60°	1516.9	1454.0	1484.0	1688.8	1725.4	1664.3	1557.3	1475.6	1467.1	1440.8	1414.5
62.5°	1396.7	1327.2	1345.9	1554.5	1571.4	1460.5	1361.9	1340.3	1319.6	1293.3	1279.3
65°	1258.6	1186.3	1212.6	1411.7	1395.7	1253.0	1197.5	1192.8	1165.6	1144.0	1164.7
67.5°	1131.8	1046.3	1083.0	1255.8	1183.5	1067.0	1044.4	1033.2	1011.6	1023.8	806.8
70°	992.8	899.8	949.6	1087.6	980.6	903.6	895.1	878.2	879.1	698.8	588.9
72.5°	837.8	757.0	829.4	903.6	775.8	753.3	741.1	739.2	596.4	484.7	457.4
75°	701.6	619.9	697.9	726.0	618.0	603.0	602.1	497.8	391.7	373.8	365.4
77.5°	547.6	484.7	558.9	516.6	474.3	457.4	410.5	308.1	294.9	282.7	106.1
80°	369.1	373.8	417.0	356.0	338.1	288.3	227.3	217.9	187.8	75.1	59.2
82.5°	224.5	281.8	265.8	222.6	217.9	156.9	143.7	73.3	54.5	43.2	37.6
85°	116.5	142.8	137.1	121.2	90.2	80.8	45.1	34.8	28.2	21.6	17.8
87.5°	39.4	52.6	50.7	40.4	31.0	24.4	16.0	13.1	9.4	7.5	6.6
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	189°	190°	191°	192°	193°	194°	195°	196°	197°	198°	199°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3154.0	3154.0	3152.1	3154.0	3154.9	3153.1	3153.1	3154.9	3155.9	3156.8	3161.5
5°	3158.7	3160.6	3163.4	3169.0	3170.0	3181.2	3185.9	3188.7	3191.6	3192.5	3185.9
7.5°	3169.0	3175.6	3181.2	3180.3	3173.7	3155.9	3150.2	3145.5	3154.0	3175.6	3201.0
10°	3178.4	3148.4	3092.0	3169.0	3145.5	3167.1	3231.0	3245.1	3288.3	3349.4	3367.2
12.5°	3113.6	3196.3	3214.1	3127.7	3287.4	3228.2	3298.6	3360.6	3378.5	3440.5	3402.9
15°	3183.1	3223.5	3250.7	3337.1	3327.8	3378.5	3398.2	3386.0	3388.8	3404.8	3447.0
17.5°	3182.2	3262.9	3280.8	3339.0	3378.5	3379.4	3373.8	3368.1	3383.2	3395.4	3370.0
20°	3236.6	3262.9	3297.7	3321.2	3328.7	3338.1	3355.9	3341.8	3313.7	3286.4	3275.2
22.5°	3209.4	3268.6	3298.6	3302.4	3297.7	3268.6	3242.3	3202.8	3189.7	3175.6	3180.3
25°	3215.0	3242.3	3238.5	3223.5	3203.8	3149.3	3136.1	3119.2	3093.9	3032.8	2977.4
27.5°	3174.7	3160.6	3143.7	3107.0	3071.3	3042.2	3009.3	2954.9	2909.8	2844.0	2819.6
30°	3107.0	3050.7	3009.3	2987.7	2953.0	2904.2	2854.4	2787.7	2730.4	2717.2	2705.0
32.5°	2977.4	2922.0	2888.2	2835.6	2776.4	2718.2	2660.9	2634.6	2622.4	2624.3	2613.0
35°	2845.0	2796.1	2745.4	2666.5	2622.4	2564.1	2543.5	2537.8	2526.6	2514.4	2501.2
37.5°	2704.1	2646.8	2570.7	2523.8	2479.6	2456.1	2445.8	2437.3	2417.6	2396.0	2381.0
40°	2567.9	2464.6	2422.3	2376.3	2363.1	2352.8	2337.8	2317.1	2289.9	2286.1	2279.6
42.5°	2385.7	2311.5	2274.9	2265.5	2249.5	2231.7	2218.5	2196.0	2184.7	2192.2	2197.8
45°	2212.9	2175.3	2163.1	2151.8	2121.8	2096.4	2087.9	2080.4	2089.8	2131.2	2032.5
47.5°	2072.9	2057.9	2042.9	2024.1	1995.9	1977.1	1985.6	1993.1	2001.5	1698.2	1549.8
50°	1951.8	1931.1	1907.6	1886.9	1870.0	1868.2	1912.3	1779.9	1490.6	1483.1	1332.8
52.5°	1819.3	1788.3	1774.2	1762.0	1769.5	1797.7	1487.8	1380.7	1324.3	1150.6	1073.6
55°	1676.6	1649.3	1649.3	1660.6	1620.2	1313.1	1297.1	1121.5	1015.3	985.3	973.1
57.5°	1533.8	1531.0	1546.9	1414.5	1191.9	1143.1	960.9	922.3	905.4	901.7	882.0
60°	1403.2	1429.5	1196.6	1100.8	957.1	863.2	836.9	832.2	814.3	807.8	789.9
62.5°	1299.0	1077.3	1003.1	819.0	771.1	758.9	744.8	738.2	722.3	637.7	186.9
65°	938.3	886.6	719.5	688.5	684.7	666.9	661.2	594.5	139.9	93.9	79.8
67.5°	708.2	628.4	606.8	601.1	583.3	547.6	162.5	93.0	79.8	69.5	61.1
70°	543.8	529.7	513.8	500.6	147.5	92.0	79.8	67.6	58.2	51.7	47.0
72.5°	445.2	435.8	253.6	96.7	78.9	66.7	59.2	51.7	45.1	41.3	37.6
75°	348.5	96.7	79.8	66.7	57.3	48.8	43.2	38.5	34.8	31.9	29.1
77.5°	78.9	63.9	54.5	46.0	41.3	36.6	32.9	28.2	25.4	22.5	18.8
80°	48.8	42.3	35.7	32.9	28.2	23.5	20.7	18.8	15.0	14.1	12.2
82.5°	31.9	25.4	22.5	18.8	15.0	14.1	12.2	9.4	8.5	7.5	6.6
85°	14.1	12.2	10.3	8.5	6.6	5.6	4.7	3.8	3.8	3.8	3.8
87.5°	4.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	1.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-48HL-RM-UNV-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	200°	205°	210°	215°	220°	225°	230°	235°	240°	245°	250°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3163.4	3180.3	3196.3	3191.6	3174.7	3148.4	3140.8	3130.5	3138.0	3154.0	3160.6
5°	3185.9	3176.5	3210.3	3260.1	3340.9	3348.4	3404.8	3417.9	3463.0	3491.2	3490.2
7.5°	3217.9	3351.2	3406.7	3466.8	3494.0	3487.4	3495.9	3489.3	3479.0	3474.3	3468.6
10°	3380.4	3481.8	3502.5	3502.5	3460.2	3402.9	3378.5	3336.2	3251.7	3253.6	3239.5
12.5°	3475.2	3510.9	3462.1	3420.7	3250.7	3185.0	3113.6	3079.8	3060.1	3030.0	3041.3
15°	3425.4	3374.7	3345.6	3212.2	3108.0	2989.6	2991.5	2970.8	2949.2	2951.1	2937.0
17.5°	3352.2	3311.8	3105.2	3013.1	2962.4	2916.4	2907.9	2880.7	2866.6	2861.9	2860.9
20°	3251.7	3106.1	2952.1	2929.5	2868.5	2815.9	2807.4	2815.9	2859.1	2782.1	2520.9
22.5°	3134.3	2924.8	2879.7	2815.9	2774.5	2753.9	2805.5	2570.7	2215.7	2258.9	2212.9
25°	2935.1	2844.0	2767.0	2718.2	2713.5	2586.7	2155.6	2110.5	1882.3	1760.1	1623.0
27.5°	2789.6	2750.1	2669.3	2660.9	2599.8	2115.2	1890.7	1642.7	1551.6	1537.5	1507.5
30°	2701.3	2644.9	2596.1	2382.9	2074.8	1702.9	1516.9	1482.1	1466.2	1449.3	1423.0
32.5°	2595.1	2541.6	2565.1	2003.4	1654.0	1466.2	1428.6	1403.2	1374.1	1362.8	1268.0
35°	2487.1	2462.7	2004.4	1684.1	1422.0	1376.9	1348.8	1322.5	1052.0	254.5	86.4
37.5°	2371.6	2366.0	1801.5	1397.6	1331.9	1289.6	1209.8	249.8	59.2	40.4	30.1
40°	2281.4	1802.4	1423.9	1310.3	1256.7	1190.0	167.2	41.3	26.3	16.0	10.3
42.5°	2221.3	1621.1	1274.6	1229.5	1113.0	123.0	42.3	17.8	10.3	8.5	6.6
45°	1712.2	1280.2	1191.0	1144.0	140.9	42.3	24.4	8.5	6.6	5.6	3.8
47.5°	1579.8	1162.8	1110.2	249.8	47.0	22.5	16.9	5.6	3.8	3.8	3.8
50°	1196.6	1074.5	883.8	61.1	30.1	16.0	12.2	3.8	3.8	3.8	2.8
52.5°	1049.1	991.8	94.9	40.4	23.5	12.2	7.5	2.8	2.8	2.8	2.8
55°	959.0	629.3	56.4	31.0	19.7	11.3	4.7	2.8	2.8	2.8	1.9
57.5°	877.3	84.5	41.3	26.3	17.8	10.3	2.8	2.8	2.8	2.8	1.9
60°	743.9	61.1	33.8	23.5	16.9	9.4	2.8	2.8	2.8	2.8	2.8
62.5°	96.7	47.9	29.1	20.7	12.2	7.5	1.9	2.8	2.8	2.8	2.8
65°	70.4	37.6	26.3	14.1	7.5	2.8	1.9	2.8	2.8	2.8	2.8
67.5°	54.5	31.0	19.7	12.2	6.6	1.9	1.9	2.8	2.8	2.8	2.8
70°	43.2	26.3	16.0	10.3	5.6	1.9	1.9	2.8	2.8	2.8	2.8
72.5°	33.8	18.8	11.3	5.6	3.8	1.9	1.9	2.8	2.8	2.8	2.8
75°	25.4	15.0	8.5	4.7	1.9	1.9	1.9	2.8	2.8	2.8	2.8
77.5°	16.9	9.4	6.6	3.8	3.8	3.8	4.7	4.7	2.8	2.8	2.8
80°	11.3	6.6	4.7	4.7	4.7	3.8	4.7	4.7	2.8	4.7	2.8
82.5°	5.6	4.7	4.7	3.8	3.8	2.8	3.8	3.8	3.8	3.8	2.8
85°	3.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	2.8
87.5°	1.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	3.8	3.8	2.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	255°	260°	265°	270°	275°	280°	285°	290°	295°	300°	305°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3152.1	3154.9	3147.4	3187.8	3167.1	3169.0	3177.5	3155.9	3160.6	3145.5	3135.2
5°	3494.0	3499.6	3505.3	3507.2	3510.9	3515.6	3510.0	3507.2	3501.5	3482.7	3463.0
7.5°	3440.5	3433.9	3431.1	3434.8	3441.4	3444.2	3439.5	3446.1	3470.5	3480.9	3487.4
10°	3158.7	3128.6	3149.3	3146.5	3123.0	3201.9	3180.3	3192.5	3201.0	3287.4	3340.0
12.5°	3024.4	3043.2	3007.5	2989.6	3013.1	3029.1	3045.0	3011.2	3058.2	3036.6	3106.1
15°	2911.7	2900.4	2896.6	2897.6	2892.9	2915.4	2921.1	2928.6	2935.1	2964.3	2975.5
17.5°	2860.9	2879.7	2887.2	2892.9	2883.5	2873.2	2862.8	2847.8	2852.5	2845.0	2866.6
20°	2345.3	2282.4	2278.6	2315.2	2274.9	2297.4	2351.9	2716.3	2704.1	2845.9	2798.0
22.5°	1957.4	1898.2	1847.5	1803.4	1866.3	1892.6	1994.0	2108.6	2294.6	2265.5	2467.4
25°	1598.6	1577.0	1563.8	1557.3	1562.0	1560.1	1582.6	1636.2	1720.7	1919.8	2177.2
27.5°	1495.3	1485.0	1480.3	1465.2	1476.5	1472.7	1490.6	1501.9	1527.2	1546.9	1630.5
30°	1413.6	1401.4	1392.9	1376.9	1388.2	1389.1	1394.8	1423.9	1434.2	1451.1	1477.4
32.5°	516.6	304.3	285.5	271.4	296.8	387.0	679.1	1187.2	1354.4	1367.5	1397.6
35°	50.7	42.3	37.6	37.6	38.5	42.3	56.4	148.4	271.4	1049.1	1313.1
37.5°	19.7	16.9	14.1	13.1	14.1	16.0	21.6	28.2	38.5	79.8	356.0
40°	8.5	7.5	6.6	6.6	6.6	6.6	7.5	9.4	14.1	26.3	41.3
42.5°	5.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	6.6	8.5	16.9
45°	3.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	4.7	7.5
47.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8
50°	2.8	2.8	2.8	2.8	1.9	2.8	1.9	2.8	2.8	2.8	2.8
52.5°	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	2.8
55°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8
57.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
60°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
62.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	2.8	1.9
65°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.8	1.9
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70°	2.8	2.8	1.9	2.8	1.9	1.9	2.8	2.8	2.8	1.9	1.9
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	5.6	5.6	3.8
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.7	5.6	4.7
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	4.7	4.7	4.7
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	3.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	3.8
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	310°	315°	320°	325°	330°	335°	340°	341°	342°	343°	344°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3117.4	3116.4	3136.1	3151.2	3145.5	3151.2	3157.8	3158.7	3160.6	3153.1	3150.2
5°	3425.4	3396.3	3340.0	3299.6	3252.6	3167.1	3124.9	3129.6	3130.5	3127.7	3131.5
7.5°	3484.6	3481.8	3462.1	3453.6	3421.7	3360.6	3262.9	3246.0	3204.7	3178.4	3156.8
10°	3336.2	3403.8	3421.7	3451.7	3470.5	3459.2	3376.6	3364.4	3338.1	3308.0	3314.6
12.5°	3175.6	3231.0	3233.8	3397.3	3433.9	3437.6	3405.7	3422.6	3426.4	3358.7	3319.3
15°	2978.4	3004.7	3060.1	3212.2	3323.1	3392.6	3413.2	3422.6	3376.6	3373.8	3357.8
17.5°	2891.9	2908.8	2934.2	3019.7	3187.8	3290.2	3377.5	3371.0	3388.8	3375.7	3335.3
20°	2783.0	2797.1	2842.2	2885.4	2968.0	3104.2	3267.6	3279.9	3303.3	3300.5	3311.8
22.5°	2781.1	2731.3	2738.8	2772.7	2859.1	2981.2	3154.9	3195.3	3210.3	3220.7	3232.9
25°	2206.3	2601.7	2674.0	2695.6	2752.0	2823.4	3028.1	3043.2	3071.3	3117.4	3151.2
27.5°	1911.4	2180.0	2469.3	2619.6	2655.3	2714.4	2836.5	2859.1	2954.9	2966.1	3018.7
30°	1508.4	1716.0	2148.1	2509.7	2568.8	2610.2	2696.6	2741.7	2783.0	2828.1	2883.5
32.5°	1419.2	1452.1	1691.6	2076.7	2536.9	2505.9	2569.8	2597.0	2642.1	2681.6	2721.9
35°	1337.5	1360.0	1410.7	1701.0	2066.3	2420.4	2463.6	2481.5	2506.9	2536.9	2566.0
37.5°	1252.0	1285.8	1320.6	1398.5	1911.4	2352.8	2351.9	2372.5	2387.6	2412.9	2437.3
40°	227.3	1180.6	1237.0	1287.7	1482.1	1876.6	2246.7	2256.1	2266.4	2282.4	2307.7
42.5°	36.6	197.2	1159.0	1207.9	1263.3	1680.3	2198.8	2160.3	2153.7	2165.0	2187.5
45°	18.8	47.9	232.9	1128.0	1177.8	1340.3	1797.7	2093.6	2087.0	2065.4	2070.1
47.5°	14.1	30.1	57.3	389.8	1102.7	1150.6	1658.7	1640.9	1765.8	2005.3	1968.7
50°	12.2	20.7	33.8	79.8	974.0	1059.5	1277.4	1492.5	1558.2	1566.7	1854.1
52.5°	11.3	14.1	24.4	51.7	204.8	979.6	1038.8	1113.9	1224.8	1462.4	1456.8
55°	10.3	13.1	20.7	34.8	71.4	882.9	943.9	958.0	981.5	1095.2	1245.4
57.5°	5.6	12.2	19.7	30.1	53.5	161.6	856.6	867.9	886.6	891.3	944.9
60°	2.8	11.3	17.8	26.3	39.4	75.1	770.2	783.3	794.6	796.5	813.4
62.5°	1.9	10.3	15.0	24.4	32.9	53.5	182.2	371.9	707.3	707.3	727.0
65°	1.9	7.5	9.4	16.0	30.1	44.1	77.0	89.2	173.8	427.4	637.7
67.5°	1.9	2.8	8.5	13.1	22.5	33.8	56.4	65.7	78.9	90.2	167.2
70°	1.9	1.9	7.5	8.5	14.1	25.4	40.4	46.0	53.5	61.1	70.4
72.5°	1.9	1.9	6.6	6.6	9.4	16.9	31.0	33.8	38.5	43.2	49.8
75°	4.7	3.8	5.6	5.6	6.6	13.1	23.5	26.3	28.2	31.9	36.6
77.5°	4.7	4.7	4.7	4.7	4.7	8.5	15.0	16.9	19.7	21.6	25.4
80°	3.8	3.8	3.8	4.7	4.7	5.6	9.4	10.3	11.3	14.1	15.0
82.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	5.6	6.6	8.5
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.8	3.8	3.8	3.8
87.5°	2.8	2.8	2.8	1.9	1.9	2.8	2.8	2.8	2.8	2.8	2.8
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	345°	346°	347°	348°	349°	350°	351°	352°	353°	354°	355°
0°	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3149.3	3143.7	3139.0	3141.8	3133.3	3129.6	3132.4	3133.3	3135.2	3139.9	3140.8
5°	3140.8	3139.0	3147.4	3152.1	3150.2	3152.1	3152.1	3148.4	3142.7	3146.5	3138.0
7.5°	3135.2	3123.0	3113.6	3115.5	3106.1	3117.4	3127.7	3142.7	3147.4	3147.4	3138.0
10°	3232.0	3218.8	3166.2	3130.5	3107.0	3086.4	3135.2	3085.4	3108.9	3019.7	3122.1
12.5°	3311.8	3329.6	3306.2	3208.5	3191.6	3129.6	3165.3	3104.2	3086.4	2984.0	3016.9
15°	3343.7	3309.9	3302.4	3275.2	3238.5	3220.7	3124.9	3114.5	3085.4	3096.7	3053.5
17.5°	3315.5	3332.5	3309.9	3292.1	3254.5	3212.2	3154.9	3104.2	3063.8	2973.7	3049.7
20°	3288.3	3310.8	3243.2	3254.5	3258.2	3209.4	3179.4	3137.1	3086.4	3001.8	2936.1
22.5°	3243.2	3227.3	3232.9	3216.0	3201.9	3208.5	3167.1	3138.0	3052.6	3014.0	2924.8
25°	3170.0	3164.3	3179.4	3177.5	3143.7	3132.4	3111.7	3080.7	3046.9	2984.9	2911.7
27.5°	3050.7	3079.8	3106.1	3118.3	3100.5	3070.4	3059.1	3041.3	3017.8	2954.9	2900.4
30°	2924.8	2957.7	2987.7	3014.0	3030.0	3016.9	3006.5	2996.2	2960.5	2919.2	2858.1
32.5°	2781.1	2824.3	2865.6	2897.6	2932.3	2942.7	2935.1	2926.7	2896.6	2859.1	2810.2
35°	2614.9	2674.0	2734.1	2791.4	2806.5	2830.9	2855.3	2841.2	2825.3	2787.7	2742.6
37.5°	2474.0	2516.2	2559.4	2631.8	2684.4	2715.4	2758.6	2764.2	2737.0	2719.1	2659.9
40°	2328.4	2366.9	2429.8	2472.1	2544.4	2580.1	2626.1	2646.8	2640.2	2629.9	2578.2
42.5°	2213.8	2232.6	2273.9	2311.5	2382.9	2456.1	2496.5	2519.1	2542.5	2534.1	2507.8
45°	2091.7	2108.6	2122.7	2155.6	2225.1	2289.9	2339.7	2373.5	2415.7	2435.5	2403.5
47.5°	1970.5	1975.2	1992.1	2019.4	2060.7	2110.5	2194.1	2244.8	2284.3	2322.8	2302.1
50°	1877.6	1860.6	1863.5	1880.4	1914.2	1963.0	2023.1	2094.5	2139.6	2186.6	2191.3
52.5°	1640.9	1778.0	1745.1	1754.5	1772.4	1795.8	1858.8	1929.2	1984.6	2025.0	2065.4
55°	1376.9	1404.2	1668.1	1630.5	1641.8	1662.5	1691.6	1762.0	1815.6	1871.9	1928.3
57.5°	1067.9	1270.8	1281.1	1525.3	1519.7	1521.6	1546.0	1586.4	1639.9	1710.4	1758.3
60°	830.3	915.8	1082.0	1166.5	1380.7	1388.2	1402.3	1425.8	1471.8	1538.5	1614.6
62.5°	732.6	743.9	803.1	929.9	1068.9	1237.0	1267.0	1270.8	1291.5	1358.2	1446.4
65°	643.4	650.9	668.7	681.9	798.4	960.9	1105.5	1129.0	1142.1	1181.6	1256.7
67.5°	443.3	560.7	576.7	586.1	597.4	672.5	851.9	971.2	986.2	1021.0	1086.7
70°	85.5	177.5	485.6	495.9	501.6	518.5	547.6	737.3	836.9	869.7	899.8
72.5°	58.2	68.6	82.7	195.4	413.3	422.7	429.2	453.7	621.8	717.6	733.6
75°	42.3	47.0	55.4	68.6	84.5	275.2	340.9	353.2	365.4	504.4	585.2
77.5°	30.1	33.8	37.6	44.1	51.7	66.7	95.8	263.9	276.1	282.7	399.2
80°	16.9	20.7	25.4	29.1	32.9	37.6	48.8	61.1	136.2	199.1	209.5
82.5°	9.4	11.3	13.1	16.0	17.8	22.5	27.2	32.9	43.2	63.9	135.3
85°	4.7	4.7	4.7	6.6	7.5	10.3	12.2	14.1	19.7	27.2	37.6
87.5°	2.8	2.8	3.8	3.8	3.8	4.7	4.7	4.7	5.6	8.5	12.2
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-L950-CD1-U

CANDELA DISTRIBUTION (continued):

	356°	357°	358°	359°	360°
0°	3129.6	3129.6	3129.6	3129.6	3129.6
2.5°	3141.8	3139.0	3139.0	3150.2	3147.4
5°	3136.1	3133.3	3132.4	3144.6	3139.0
7.5°	3131.5	3121.1	3118.3	3129.6	3124.9
10°	3112.7	3105.2	3109.8	3106.1	3104.2
12.5°	3080.7	3076.0	3056.3	3058.2	3074.2
15°	3023.4	3042.2	3008.4	3038.5	3045.0
17.5°	2918.2	2960.5	2993.4	3011.2	3014.0
20°	2965.2	2979.3	2962.4	2963.3	2974.6
22.5°	2904.2	2910.7	2915.4	2909.8	2934.2
25°	2806.5	2781.1	2835.6	2846.9	2886.3
27.5°	2776.4	2755.8	2781.1	2779.2	2812.1
30°	2752.0	2685.3	2696.6	2714.4	2754.8
32.5°	2717.2	2612.0	2600.8	2640.2	2685.3
35°	2656.2	2556.6	2530.3	2555.7	2623.3
37.5°	2604.5	2479.6	2427.0	2460.8	2549.1
40°	2527.5	2419.5	2337.8	2367.8	2472.1
42.5°	2435.5	2367.8	2242.0	2262.6	2381.9
45°	2342.5	2282.4	2149.0	2159.3	2301.2
47.5°	2247.6	2192.2	2052.3	2054.1	2197.8
50°	2154.6	2081.4	1965.8	1933.0	2087.9
52.5°	2033.5	1965.8	1878.5	1825.0	1983.7
55°	1918.9	1842.8	1778.9	1696.3	1865.3
57.5°	1807.1	1722.6	1679.4	1573.2	1731.0
60°	1654.0	1613.6	1549.8	1448.3	1609.9
62.5°	1497.2	1484.0	1419.2	1314.0	1460.5
65°	1314.0	1345.0	1278.3	1188.1	1305.6
67.5°	1141.2	1196.6	1123.3	1067.9	1156.2
70°	957.1	1021.0	979.6	959.9	997.5
72.5°	775.8	837.8	841.6	827.5	839.7
75°	599.2	667.8	705.4	683.8	686.6
77.5°	454.6	487.5	528.8	545.7	541.9
80°	280.8	338.1	371.9	406.7	394.5
82.5°	141.8	189.7	231.1	268.6	250.8
85°	59.2	76.1	106.1	139.9	134.3
87.5°	17.8	30.1	31.9	45.1	42.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)