

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: FAIL-SAFE

Report Number: P188241

Luminaire Tested: **FCC-N-4-LD4-2STD-40-UNV-80/86**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188241
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27011)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCC-N-4-LD4-2STD-40-UNV-80/86
Description:
Light Source: (168) NICHIA ELM 4000K LED
2UT217042A8404A
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6507.8 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.69 / 1.29 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 1.92' x L: 0.38' x H: 0.52')
CIE Type: Direct

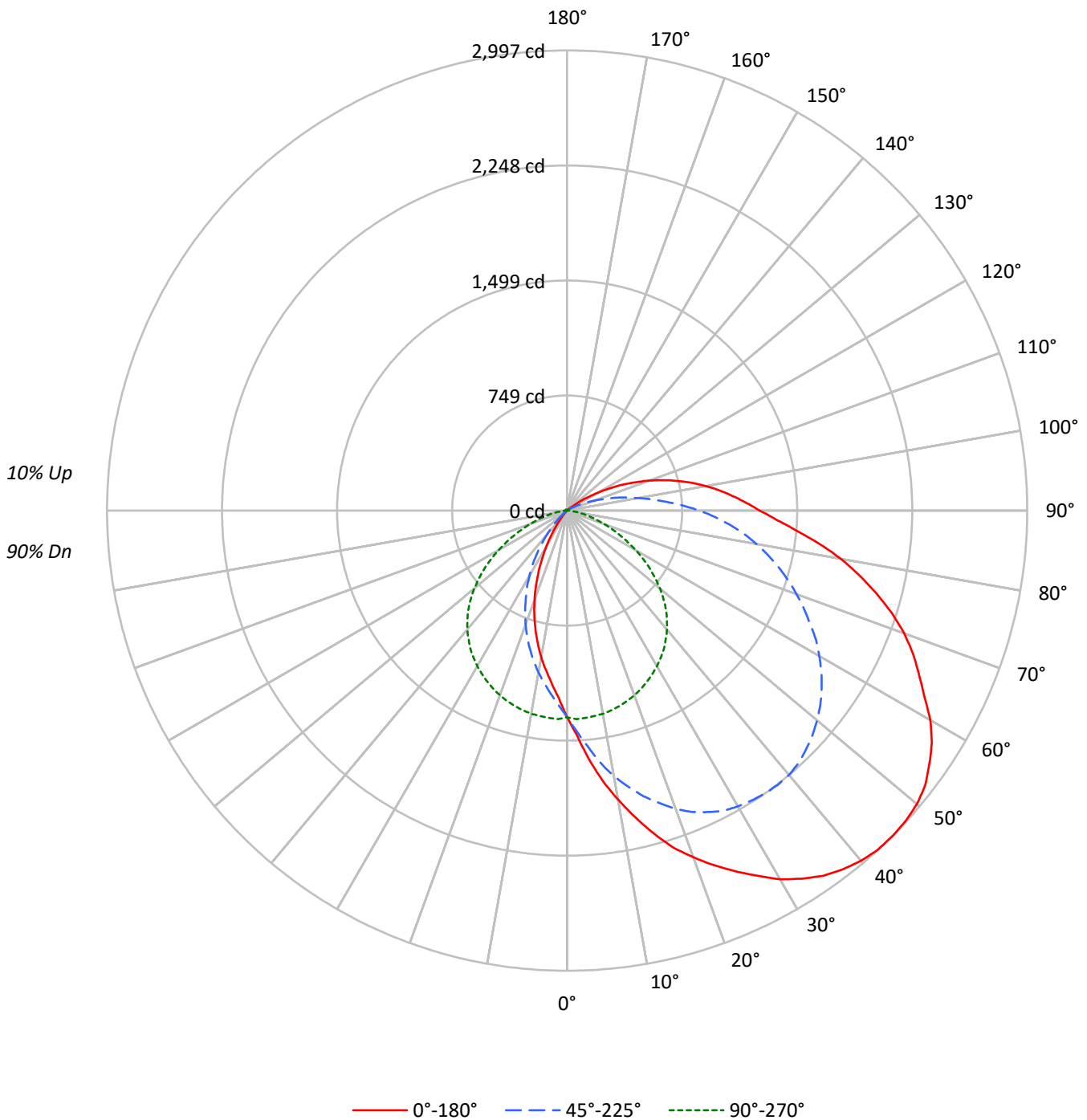
Input Watts (W): 69.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

Luminous Intensity Polar Plot





TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

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	0
RCR																				
0	117	117	117	117	113	113	113	113	106	106	106		99	99	99		93	93	93	90
1	103	97	91	86	99	94	89	84	88	83	80		82	79	75		77	74	72	69
2	92	83	74	68	89	80	72	66	75	68	63		70	65	60		65	61	57	54
3	83	71	62	55	80	69	60	53	65	57	51		60	54	49		57	51	47	44
4	76	63	53	45	73	60	51	44	57	49	43		53	46	41		50	44	39	37
5	69	55	46	38	66	54	44	38	50	42	36		47	40	35		44	39	34	31
6	64	50	40	33	61	48	39	32	45	37	31		43	36	30		40	34	29	27
7	59	45	35	29	57	43	35	28	41	33	27		39	32	27		36	30	26	23
8	55	41	32	25	53	39	31	25	37	30	24		35	28	24		33	27	23	21
9	51	37	28	23	49	36	28	22	34	27	22		32	26	21		31	25	20	18
10	48	34	26	20	46	33	25	20	31	24	19		30	23	19		28	23	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	20152	20152	20152
5°	21767	19904	15186
10°	23357	19498	11872
15°	24592	19045	9028
20°	25438	18563	6564
25°	25993	18043	4425
30°	26610	17499	2613
35°	26915	16882	1235
40°	26880	16106	376
45°	26573	15160	0
50°	26091	13887	0
55°	25204	12337	18
60°	24019	10484	18
65°	22518	8499	36
70°	21233	6428	36
75°	19511	4510	37
80°	17592	2698	39
85°	15260	1247	41



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	2.0
10°-20°	401.2	6.2
20°-30°	642.4	9.9
30°-40°	816.2	12.5
40°-50°	907.5	13.9
50°-60°	920.8	14.1
60°-70°	847.4	13.0
70°-80°	707.2	10.9
80°-90°	511.1	7.9
90°-100°	326.3	5.0
100°-110°	186.7	2.9
110°-120°	81.8	1.3
120°-130°	21.7	0.3
130°-140°	5.1	0.1
140°-150°	0.5	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1175.4	18.1
0°-40°	1991.6	30.6
0°-60°	3819.8	58.7
0°-90°	5885.6	90.4
90°-120°	594.9	9.1
90°-150°	622.2	9.6
90°-180°	622.0	9.6
0°-180°	6507.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1346	1346	1346	1346	1346	
5°	1624	1542	1356	1200	1133	164
15°	2176	1926	1318	934	799	622
25°	2592	2166	1230	638	441	1204
35°	2904	2248	1099	344	133	1819
45°	2997	2200	910	101	0	2315
55°	2880	2023	656	6	2	2575
65°	2528	1745	380	6	4	2510
75°	2085	1425	157	8	4	2199
85°	1499	1063	30	8	4	1291
90°	1254	861	10	8	4	690
95°	1083	650	8	8	4	852
105°	745	320	8	8	4	790
115°	400	93	8	8	4	400
125°	109	4	10	8	4	109
135°	0	4	8	8	4	7
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1464.9	1456.9	1456.9	1452.9	1452.9	1452.9	1451.0	1456.9	1443.0	1447.0	1439.0
5°	1623.9	1617.9	1615.9	1617.9	1602.0	1600.0	1594.1	1592.1	1576.2	1562.3	1542.4
7.5°	1774.9	1772.9	1769.0	1765.0	1749.1	1745.1	1735.2	1725.2	1701.4	1681.5	1655.7
10°	1912.1	1904.1	1906.1	1894.2	1876.3	1870.3	1860.4	1844.5	1816.7	1790.8	1757.0
12.5°	2045.2	2035.3	2031.3	2015.4	1997.5	1987.6	1975.7	1953.8	1920.0	1886.2	1842.5
15°	2176.4	2170.5	2166.5	2148.6	2118.8	2106.9	2091.0	2061.1	2017.4	1975.7	1926.0
17.5°	2301.6	2289.7	2285.7	2263.9	2236.1	2222.1	2204.3	2164.5	2114.8	2061.1	1997.5
20°	2403.0	2395.1	2385.1	2365.3	2333.4	2317.5	2295.7	2253.9	2200.3	2136.7	2067.1
22.5°	2500.4	2494.4	2482.5	2456.7	2424.9	2401.0	2377.2	2327.5	2271.8	2202.3	2124.8
25°	2591.8	2585.9	2572.0	2542.1	2504.4	2478.5	2454.7	2395.1	2329.5	2252.0	2166.5
27.5°	2681.3	2675.3	2661.4	2627.6	2579.9	2552.1	2524.3	2456.7	2381.2	2295.7	2204.3
30°	2772.7	2766.7	2744.9	2707.1	2655.4	2621.7	2587.9	2508.4	2420.9	2327.5	2224.1
32.5°	2842.3	2834.3	2812.5	2774.7	2717.1	2683.3	2645.5	2560.0	2458.7	2353.3	2238.0
35°	2903.9	2890.0	2868.1	2824.4	2762.8	2723.0	2687.2	2595.8	2488.5	2373.2	2248.0
37.5°	2945.6	2935.7	2905.9	2856.2	2794.6	2750.8	2713.1	2617.7	2506.4	2387.1	2252.0
40°	2977.4	2965.5	2933.7	2880.0	2810.5	2772.7	2734.9	2645.5	2524.3	2387.1	2248.0
42.5°	2995.3	2981.4	2945.6	2888.0	2812.5	2774.7	2729.0	2643.5	2518.3	2373.2	2230.1
45°	2997.3	2983.4	2949.6	2882.0	2800.5	2756.8	2705.1	2599.8	2484.5	2353.3	2200.3
47.5°	2991.3	2977.4	2935.7	2868.1	2782.6	2733.0	2683.3	2572.0	2452.7	2319.5	2166.5
50°	2973.5	2957.6	2917.8	2848.2	2760.8	2707.1	2655.4	2540.2	2416.9	2275.8	2124.8
52.5°	2939.7	2921.8	2882.0	2814.5	2723.0	2673.3	2623.6	2502.4	2373.2	2228.1	2079.0
55°	2880.0	2870.1	2830.4	2764.8	2677.3	2627.6	2574.0	2456.7	2321.5	2174.4	2023.4
57.5°	2816.4	2802.5	2772.7	2705.1	2615.7	2570.0	2514.3	2397.1	2255.9	2112.8	1963.8
60°	2731.0	2717.1	2685.3	2623.6	2542.1	2490.5	2438.8	2321.5	2180.4	2041.3	1896.2
62.5°	2623.6	2621.7	2593.8	2538.2	2456.7	2409.0	2359.3	2240.0	2108.9	1967.7	1828.6
65°	2528.2	2518.3	2496.4	2442.8	2363.3	2315.6	2265.9	2156.6	2021.4	1892.2	1745.1
67.5°	2438.8	2426.9	2401.0	2345.4	2271.8	2224.1	2180.4	2067.1	1939.9	1810.7	1669.6
70°	2335.4	2327.5	2303.6	2257.9	2182.4	2132.7	2094.9	1975.7	1856.4	1729.2	1590.1
72.5°	2216.2	2208.2	2184.4	2146.6	2077.0	2039.3	1995.6	1888.2	1771.0	1645.7	1508.6
75°	2085.0	2075.1	2057.2	2015.4	1959.8	1920.0	1890.2	1790.8	1685.5	1556.3	1425.1
77.5°	1949.8	1941.9	1920.0	1884.3	1834.6	1806.7	1772.9	1685.5	1588.1	1470.8	1339.6
80°	1810.7	1804.7	1778.9	1749.1	1711.3	1681.5	1651.7	1574.2	1484.7	1375.4	1252.2
82.5°	1655.7	1655.7	1633.8	1610.0	1580.1	1556.3	1524.5	1454.9	1377.4	1274.1	1162.7
85°	1498.7	1496.7	1480.8	1460.9	1429.1	1415.2	1389.3	1333.7	1264.1	1168.7	1063.4
87.5°	1363.5	1359.5	1341.6	1319.8	1293.9	1276.0	1250.2	1200.5	1142.9	1059.4	964.0
90°	1254.2	1252.2	1232.3	1208.5	1172.7	1156.8	1130.9	1077.3	1019.6	944.1	860.6
92.5°	1166.7	1162.7	1140.9	1117.0	1081.3	1059.4	1029.6	971.9	904.4	826.8	753.3
95°	1083.2	1079.3	1059.4	1033.6	995.8	971.9	942.1	882.5	809.0	725.5	649.9
97.5°	1001.8	997.8	977.9	950.1	914.3	888.5	860.6	797.0	721.5	638.0	554.5
100°	918.3	912.3	894.4	866.6	832.8	805.0	777.2	713.6	640.0	554.5	469.1
102.5°	832.8	828.8	812.9	785.1	747.3	723.5	693.7	634.0	558.5	475.0	393.5
105°	745.4	741.4	723.5	699.6	661.9	638.0	610.2	550.6	479.0	397.5	320.0
107.5°	657.9	655.9	642.0	614.2	578.4	554.5	528.7	471.1	401.5	328.0	252.4
110°	570.4	566.5	554.5	528.7	492.9	471.1	445.2	391.6	328.0	256.4	192.8



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	483.0	481.0	463.1	443.2	411.4	389.6	365.7	316.0	258.4	192.8	139.1
115°	399.5	395.5	379.6	359.8	329.9	310.1	288.2	242.5	192.8	137.1	93.4
117.5°	316.0	314.0	298.1	280.3	252.4	236.5	214.7	176.9	135.2	93.4	59.6
120°	238.5	236.5	224.6	208.7	182.9	168.9	151.1	121.2	87.5	57.6	35.8
122.5°	168.9	167.0	157.0	141.1	123.2	111.3	99.4	75.5	51.7	33.8	21.9
125°	109.3	109.3	99.4	91.4	75.5	67.6	57.6	43.7	29.8	19.9	4.0
127.5°	63.6	63.6	57.6	51.7	41.7	37.8	33.8	25.8	17.9	4.0	4.0
130°	33.8	33.8	29.8	27.8	23.9	19.9	17.9	6.0	2.0	4.0	4.0
132.5°	17.9	17.9	17.9	13.9	2.0	2.0	2.0	2.0	2.0	4.0	4.0
135°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0
137.5°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0
140°	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1429.1	1425.1	1415.2	1407.2	1401.3	1399.3	1389.3	1379.4	1369.5	1359.5	1349.6
5°	1522.5	1506.6	1482.8	1460.9	1449.0	1441.0	1419.2	1397.3	1377.4	1355.5	1335.7
7.5°	1621.9	1594.1	1558.3	1522.5	1502.6	1484.7	1449.0	1415.2	1381.4	1349.6	1319.8
10°	1715.3	1675.6	1629.8	1582.1	1554.3	1530.5	1478.8	1431.1	1385.4	1343.6	1303.9
12.5°	1796.8	1747.1	1695.4	1635.8	1604.0	1574.2	1510.6	1447.0	1387.3	1331.7	1284.0
15°	1868.3	1810.7	1747.1	1683.5	1645.7	1610.0	1534.4	1458.9	1383.4	1317.8	1258.2
17.5°	1932.0	1864.4	1790.8	1719.3	1679.5	1639.8	1554.3	1466.9	1381.4	1299.9	1232.3
20°	1991.6	1910.1	1828.6	1747.1	1703.4	1659.7	1568.2	1470.8	1373.4	1280.0	1202.5
22.5°	2041.3	1951.8	1858.4	1765.0	1721.3	1673.6	1574.2	1470.8	1359.5	1256.2	1168.7
25°	2079.0	1985.6	1884.3	1780.9	1727.2	1677.5	1572.2	1462.9	1345.6	1230.3	1132.9
27.5°	2102.9	2005.5	1898.2	1786.9	1731.2	1673.6	1562.3	1451.0	1329.7	1200.5	1093.2
30°	2118.8	2011.5	1898.2	1784.9	1727.2	1667.6	1546.4	1429.1	1301.9	1170.7	1051.4
32.5°	2124.8	2009.5	1890.2	1771.0	1713.3	1651.7	1526.5	1403.3	1278.0	1134.9	1007.7
35°	2120.8	1997.5	1874.3	1751.1	1691.5	1627.8	1500.6	1371.4	1242.3	1099.1	960.0
37.5°	2110.8	1977.7	1850.5	1725.2	1663.6	1598.0	1466.9	1333.7	1200.5	1055.4	912.3
40°	2094.9	1955.8	1822.6	1693.4	1627.8	1560.3	1425.1	1291.9	1156.8	1011.7	864.6
42.5°	2073.1	1930.0	1790.8	1651.7	1586.1	1518.5	1381.4	1244.2	1107.1	962.0	812.9
45°	2047.2	1898.2	1753.1	1608.0	1540.4	1470.8	1333.7	1192.6	1051.4	910.3	757.3
47.5°	2015.4	1862.4	1711.3	1566.2	1496.7	1421.1	1280.0	1134.9	993.8	850.7	701.6
50°	1973.7	1820.6	1667.6	1518.5	1443.0	1367.5	1220.4	1075.3	932.2	789.1	644.0
52.5°	1926.0	1771.0	1617.9	1464.9	1391.3	1311.8	1158.8	1009.7	866.6	721.5	580.4
55°	1870.3	1719.3	1566.2	1411.2	1335.7	1252.2	1097.2	944.1	799.0	655.9	516.8
57.5°	1812.7	1661.6	1508.6	1351.6	1274.1	1192.6	1031.6	872.6	727.5	586.3	449.2
60°	1747.1	1598.0	1443.0	1291.9	1214.4	1127.0	966.0	803.0	651.9	514.8	383.6
62.5°	1683.5	1534.4	1379.4	1228.3	1152.8	1065.4	900.4	735.4	582.4	445.2	322.0
65°	1608.0	1462.9	1311.8	1162.7	1083.2	1001.8	834.8	667.8	514.8	379.6	258.4
67.5°	1534.4	1387.3	1240.3	1093.2	1017.7	932.2	769.2	602.2	447.2	316.0	206.7
70°	1452.9	1309.8	1164.7	1017.7	946.1	866.6	701.6	536.7	383.6	256.4	157.0
72.5°	1371.4	1226.4	1081.3	940.1	868.6	791.1	630.1	473.1	326.0	204.7	113.3
75°	1286.0	1140.9	995.8	856.7	787.1	713.6	558.5	413.4	268.3	157.0	79.5
77.5°	1202.5	1053.4	908.3	769.2	703.6	632.1	483.0	347.8	214.7	115.3	51.7
80°	1117.0	968.0	820.9	683.7	616.2	550.6	409.4	284.2	165.0	79.5	31.8
82.5°	1029.6	888.5	741.4	596.3	532.7	465.1	335.9	222.6	121.2	49.7	19.9
85°	938.2	799.0	655.9	512.8	449.2	387.6	266.3	167.0	81.5	29.8	11.9
87.5°	846.7	715.5	574.4	435.3	373.7	314.0	202.7	117.3	49.7	15.9	9.9
90°	751.3	628.1	492.9	361.7	302.1	248.5	147.1	75.5	27.8	9.9	9.9
92.5°	655.9	542.6	417.4	292.2	238.5	188.8	101.4	47.7	15.9	9.9	9.9
95°	560.5	453.2	343.9	230.6	182.9	137.1	67.6	27.8	9.9	8.0	9.9
97.5°	467.1	375.7	274.3	174.9	133.2	97.4	41.7	15.9	8.0	8.0	9.9
100°	381.6	296.2	208.7	125.2	91.4	61.6	25.8	9.9	8.0	8.0	9.9
102.5°	306.1	224.6	151.1	83.5	57.6	37.8	15.9	8.0	8.0	8.0	8.0
105°	240.5	163.0	101.4	51.7	35.8	23.9	8.0	8.0	8.0	8.0	8.0
107.5°	180.9	117.3	67.6	31.8	21.9	13.9	8.0	8.0	8.0	8.0	8.0
110°	129.2	77.5	39.8	19.9	11.9	8.0	8.0	8.0	8.0	8.0	8.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	87.5	47.7	25.8	8.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0
115°	55.7	29.8	15.9	6.0	8.0	8.0	8.0	8.0	8.0	8.0	9.9
117.5°	33.8	19.9	6.0	6.0	8.0	8.0	8.0	8.0	8.0	9.9	9.9
120°	21.9	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	9.9	9.9
122.5°	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9	9.9
125°	4.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9	9.9
127.5°	4.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	9.9
130°	4.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9
132.5°	4.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	9.9
135°	4.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9
137.5°	4.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9	9.9
140°	4.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	9.9
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1337.7	1327.7	1315.8	1311.8	1305.9	1297.9	1286.0	1280.0	1268.1	1260.1	1252.2
5°	1313.8	1295.9	1276.0	1268.1	1260.1	1246.2	1228.3	1216.4	1200.5	1188.6	1176.7
7.5°	1291.9	1264.1	1236.3	1226.4	1214.4	1190.6	1170.7	1156.8	1134.9	1121.0	1105.1
10°	1266.1	1232.3	1198.5	1184.6	1170.7	1142.9	1117.0	1097.2	1071.3	1051.4	1033.6
12.5°	1238.3	1196.5	1158.8	1142.9	1123.0	1091.2	1059.4	1033.6	1003.7	983.9	960.0
15°	1204.5	1156.8	1113.1	1091.2	1073.3	1035.5	999.8	970.0	934.2	908.3	884.5
17.5°	1168.7	1115.0	1063.4	1045.5	1019.6	977.9	938.2	902.4	864.6	836.8	805.0
20°	1132.9	1073.3	1015.7	991.8	962.0	916.3	874.5	834.8	791.1	755.3	723.5
22.5°	1091.2	1025.6	964.0	938.2	906.3	854.7	805.0	759.3	715.5	673.8	642.0
25°	1047.5	975.9	908.3	880.5	848.7	791.1	737.4	687.7	638.0	600.3	562.5
27.5°	999.8	922.2	850.7	820.9	789.1	723.5	667.8	616.2	568.5	524.7	481.0
30°	952.1	868.6	791.1	759.3	725.5	657.9	598.3	542.6	489.0	445.2	403.5
32.5°	902.4	810.9	733.4	697.6	657.9	588.3	526.7	469.1	417.4	367.7	328.0
35°	848.7	751.3	669.8	632.1	592.3	518.8	455.2	397.5	343.9	294.2	254.4
37.5°	793.1	689.7	600.3	564.5	524.7	449.2	385.6	326.0	274.3	226.6	188.8
40°	733.4	630.1	536.7	498.9	457.1	381.6	318.0	258.4	204.7	165.0	131.2
42.5°	677.8	566.5	471.1	431.3	391.6	314.0	252.4	196.8	149.1	111.3	83.5
45°	620.1	504.9	407.5	365.7	326.0	252.4	192.8	141.1	101.4	69.6	47.7
47.5°	562.5	443.2	343.9	302.1	264.4	194.8	139.1	95.4	61.6	39.8	25.8
50°	504.9	381.6	284.2	244.5	208.7	143.1	95.4	59.6	35.8	23.9	13.9
52.5°	445.2	324.0	228.6	190.8	157.0	99.4	59.6	35.8	21.9	8.0	4.0
55°	385.6	266.3	176.9	141.1	113.3	65.6	37.8	21.9	6.0	6.0	6.0
57.5°	328.0	214.7	131.2	101.4	77.5	41.7	23.9	8.0	6.0	6.0	6.0
60°	270.3	167.0	93.4	69.6	49.7	25.8	11.9	6.0	6.0	6.0	6.0
62.5°	214.7	123.2	63.6	45.7	31.8	17.9	8.0	8.0	6.0	6.0	6.0
65°	163.0	87.5	41.7	27.8	21.9	8.0	8.0	8.0	6.0	6.0	6.0
67.5°	119.3	57.6	25.8	19.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
70°	81.5	35.8	17.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
72.5°	53.7	21.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
75°	33.8	13.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0
77.5°	21.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0
80°	13.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0
82.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0
85°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
87.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0
90°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
92.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
95°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
97.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
100°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
102.5°	9.9	9.9	9.9	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0
105°	9.9	9.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0
107.5°	8.0	9.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0
110°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	8.0	9.9	8.0	8.0	9.9	8.0	8.0	8.0	8.0	6.0	6.0
115°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
117.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
120°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
122.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
125°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
127.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
130°	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	8.0	6.0
132.5°	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	8.0	6.0
135°	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0	6.0
137.5°	9.9	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0
140°	9.9	9.9	9.9	9.9	9.9	8.0	8.0	8.0	8.0	6.0	6.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1246.2	1238.3	1236.3	1232.3	1226.4	1222.4	1222.4	1224.4
5°	1168.7	1158.8	1154.8	1150.8	1144.9	1138.9	1136.9	1132.9
7.5°	1093.2	1081.3	1077.3	1071.3	1065.4	1059.4	1055.4	1049.5
10°	1017.7	1001.8	997.8	989.8	983.9	973.9	968.0	971.9
12.5°	940.1	922.2	914.3	906.3	894.4	890.4	882.5	884.5
15°	860.6	840.8	832.8	824.9	810.9	799.0	797.0	799.0
17.5°	779.1	757.3	749.3	739.4	723.5	715.5	707.6	711.6
20°	695.7	671.8	661.9	651.9	634.0	624.1	618.1	620.1
22.5°	612.2	582.4	574.4	560.5	544.6	534.7	528.7	530.7
25°	528.7	498.9	489.0	475.0	457.1	447.2	441.2	441.2
27.5°	447.2	415.4	405.5	391.6	371.7	361.7	355.8	353.8
30°	365.7	333.9	324.0	310.1	290.2	280.3	274.3	272.3
32.5°	288.2	260.4	246.5	236.5	216.6	204.7	198.8	198.8
35°	216.6	190.8	178.9	168.9	149.1	139.1	133.2	133.2
37.5°	153.0	131.2	119.3	111.3	93.4	85.5	81.5	79.5
40°	101.4	81.5	71.6	65.6	51.7	45.7	43.7	41.7
42.5°	59.6	43.7	37.8	33.8	27.8	21.9	21.9	19.9
45°	31.8	23.9	19.9	17.9	13.9	8.0	2.0	0.0
47.5°	17.9	8.0	4.0	4.0	2.0	2.0	2.0	0.0
50°	4.0	4.0	4.0	4.0	2.0	2.0	2.0	0.0
52.5°	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0
55°	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0
57.5°	4.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0
60°	4.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0
62.5°	6.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0
65°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
67.5°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
70°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
72.5°	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0
75°	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0
77.5°	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0
80°	8.0	6.0	6.0	6.0	6.0	6.0	4.0	4.0
82.5°	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0
85°	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0
87.5°	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0
90°	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0
92.5°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
95°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
97.5°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
100°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
102.5°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
105°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
107.5°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
110°	6.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0



TEST NUMBER: P188241

CATALOG NUMBER: FCC-N-4-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
115°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
117.5°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
120°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
122.5°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
125°	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0
127.5°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
130°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
132.5°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
135°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
137.5°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
140°	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)