

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: NEO-RAY

Report Number: P242813

Luminaire Tested: **S125DR-S1090D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242813  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-S1090D835-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4239.1 lumens  
Efficiency: N/A  
Efficacy: 121.8 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

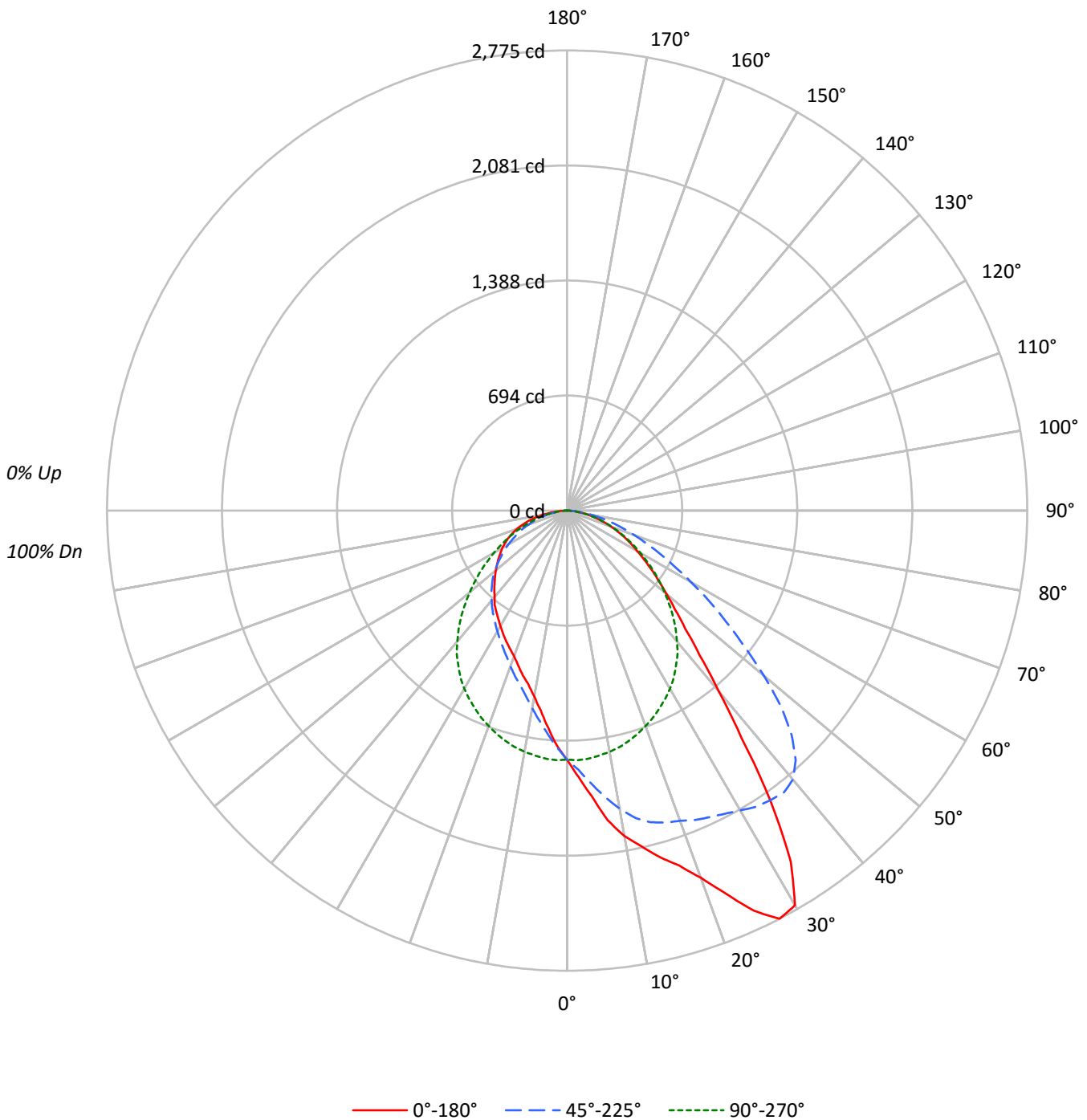
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242813

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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53
5	78	65	56	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	10677	10677	10677
5°	12364	10712	9380
10°	14384	10657	8218
15°	15923	10579	7582
20°	17823	10455	7070
25°	20880	10315	6820
30°	22552	10177	6603
35°	18543	9919	6461
40°	13180	9560	6306
45°	10126	9074	6217
50°	8643	8474	6204
55°	7695	7885	6258
60°	6942	7241	6417
65°	6412	6594	6584
70°	5829	5922	6677
75°	5149	5218	6618
80°	4330	4253	6053
85°	3433	3066	4885



TEST NUMBER: P242813

CATALOG NUMBER: S125DR-S1090D835-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.6	3.4
10°-20°	430.6	10.2
20°-30°	699.5	16.5
30°-40°	854.9	20.2
40°-50°	775.6	18.3
50°-60°	617.7	14.6
60°-70°	430.2	10.1
70°-80°	229.2	5.4
80°-90°	56.8	1.3
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°	1274.7	30.1
0°-40°	2129.6	50.2
0°-60°	3522.9	83.1
0°-90°	4239.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4239.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1502	1502	1502	1502	1502	
5°	1733	1651	1502	1350	1315	174
15°	2164	1945	1438	1090	1030	619
25°	2663	2040	1315	914	870	1220
35°	2137	2133	1143	775	745	1311
45°	1007	1913	903	641	618	802
55°	621	1172	636	488	505	558
65°	381	622	392	330	392	378
75°	188	277	190	173	241	202
85°	42	56	38	41	60	49
90°	0	0	0	0	0	



TEST NUMBER: P242813

CATALOG NUMBER: S125DR-S1090D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1610.6	1608.0	1605.5	1600.4	1604.2	1593.3	1588.2	1579.3	1568.5	1564.7	1560.2
5°	1733.0	1736.2	1739.4	1726.0	1727.2	1718.3	1697.9	1681.3	1667.9	1650.7	1638.6
7.5°	1884.7	1875.2	1875.8	1867.5	1852.8	1840.7	1821.0	1793.5	1768.7	1740.6	1716.4
10°	1993.1	1993.8	1988.0	1977.8	1961.9	1950.4	1922.3	1895.6	1863.0	1824.8	1797.4
12.5°	2074.7	2077.9	2070.3	2055.6	2049.9	2020.5	2000.1	1967.0	1926.8	1898.1	1852.8
15°	2164.0	2157.0	2151.9	2134.7	2121.3	2094.5	2059.4	2026.3	1984.2	1945.3	1906.4
17.5°	2243.1	2248.8	2240.5	2227.8	2188.2	2157.0	2113.6	2071.5	2021.2	1972.7	1927.4
20°	2356.5	2361.6	2347.0	2319.6	2269.8	2238.6	2176.7	2118.1	2057.5	1990.6	1939.6
22.5°	2498.1	2491.7	2470.7	2425.4	2384.0	2319.6	2251.3	2176.7	2097.0	2019.3	1947.2
25°	2662.6	2635.8	2623.7	2572.1	2515.3	2430.5	2338.7	2234.1	2139.8	2039.7	1952.9
27.5°	2774.8	2764.0	2746.8	2704.7	2639.6	2543.4	2435.0	2310.0	2183.1	2060.7	1951.7
30°	2748.0	2749.3	2750.6	2739.1	2700.8	2632.6	2524.9	2387.8	2229.7	2087.5	1956.1
32.5°	2510.8	2539.5	2567.0	2602.7	2625.6	2626.2	2568.9	2448.4	2284.5	2118.1	1953.6
35°	2137.2	2144.2	2216.3	2287.7	2384.6	2459.8	2510.2	2455.4	2318.3	2132.7	1951.7
37.5°	1727.9	1762.9	1817.1	1897.5	2042.8	2161.4	2317.0	2370.6	2306.2	2144.9	1951.0
40°	1420.6	1452.4	1485.0	1567.2	1685.2	1836.9	2019.9	2176.1	2212.4	2118.1	1931.9
42.5°	1183.4	1207.0	1243.9	1300.7	1394.4	1524.5	1697.3	1913.4	2061.3	2040.3	1891.7
45°	1007.4	1023.3	1051.4	1100.5	1171.9	1277.1	1431.4	1654.6	1849.0	1913.4	1823.5
47.5°	882.4	883.1	906.0	941.1	995.3	1092.2	1207.6	1391.2	1601.0	1749.6	1728.5
50°	781.7	778.5	795.7	825.0	865.9	925.1	1034.2	1173.8	1373.4	1547.4	1595.9
52.5°	695.0	696.3	705.2	724.9	757.5	805.9	880.5	1002.9	1166.2	1346.0	1448.0
55°	621.0	618.5	630.6	645.2	670.1	703.3	761.9	858.2	996.6	1172.5	1291.1
57.5°	549.6	556.6	561.7	571.9	593.6	616.6	668.8	742.8	856.9	1013.1	1138.7
60°	488.4	495.4	499.2	509.4	526.0	545.1	583.4	640.8	733.2	863.3	987.6
62.5°	433.6	438.7	439.3	448.2	461.0	479.5	507.5	553.4	621.7	731.3	852.5
65°	381.3	381.3	383.8	393.4	399.8	416.3	439.3	474.4	533.0	621.7	725.6
67.5°	330.3	333.5	332.8	337.3	343.0	357.1	374.3	403.6	450.1	517.1	603.2
70°	280.5	283.1	282.5	285.6	292.0	300.3	313.7	341.1	372.4	427.8	499.2
72.5°	235.9	236.5	234.6	239.1	242.3	249.3	264.6	276.1	304.8	349.4	404.9
75°	187.5	188.7	190.0	192.6	196.4	200.2	207.9	222.5	241.6	276.7	314.3
77.5°	149.2	146.0	149.8	149.2	151.1	154.3	161.3	169.6	186.2	209.8	241.0
80°	105.8	106.5	106.5	107.1	110.3	112.2	118.0	123.7	135.8	152.4	172.8
82.5°	70.1	72.0	70.8	72.0	74.6	75.9	78.4	82.9	88.6	100.7	114.1
85°	42.1	38.9	40.2	41.4	41.4	42.1	44.6	46.5	50.4	55.5	61.2
87.5°	15.3	16.6	17.2	17.2	17.9	17.9	20.4	20.4	22.3	24.2	26.8
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: P242813

CATALOG NUMBER: S125DR-S1090D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1556.4	1551.9	1546.8	1537.9	1527.0	1521.3	1512.4	1506.6	1495.2	1485.6	1475.4
5°	1623.9	1607.4	1592.1	1572.3	1550.6	1536.6	1520.0	1501.5	1482.4	1462.6	1441.0
7.5°	1691.5	1664.1	1634.2	1602.9	1572.3	1543.6	1516.8	1489.4	1464.6	1433.3	1407.2
10°	1759.8	1722.8	1683.2	1636.7	1591.4	1551.9	1511.7	1476.7	1441.0	1402.7	1368.9
12.5°	1828.0	1775.7	1715.8	1663.5	1606.7	1557.0	1507.9	1460.7	1413.5	1370.2	1329.4
15°	1852.8	1809.5	1757.8	1685.2	1623.9	1558.3	1495.8	1437.8	1383.6	1336.4	1286.7
17.5°	1877.1	1821.6	1766.8	1696.6	1616.9	1546.2	1475.4	1412.3	1352.3	1293.0	1247.8
20°	1882.8	1825.4	1767.4	1699.2	1616.9	1532.8	1462.0	1382.3	1316.6	1254.8	1196.1
22.5°	1880.9	1814.0	1749.6	1678.8	1599.1	1523.2	1433.9	1352.3	1279.6	1219.1	1157.2
25°	1866.9	1797.4	1718.3	1647.5	1568.5	1486.2	1399.5	1315.4	1242.7	1173.2	1112.6
27.5°	1858.6	1770.6	1683.9	1602.3	1526.4	1450.5	1366.4	1279.6	1200.0	1129.2	1073.1
30°	1840.1	1741.3	1640.5	1554.5	1476.0	1402.7	1324.3	1240.1	1156.0	1087.1	1025.9
32.5°	1823.5	1704.3	1596.5	1500.9	1416.7	1346.0	1275.2	1196.1	1113.9	1043.7	982.5
35°	1801.2	1667.9	1546.2	1440.3	1351.7	1278.4	1217.8	1143.2	1067.3	999.7	941.1
37.5°	1775.1	1620.8	1492.0	1381.7	1285.4	1208.9	1151.5	1093.5	1017.6	951.3	899.0
40°	1743.2	1569.8	1431.4	1317.9	1217.2	1136.8	1084.5	1030.4	969.8	909.2	853.1
42.5°	1703.0	1523.8	1370.2	1245.9	1146.4	1068.6	1013.1	969.1	917.5	862.0	811.0
45°	1652.0	1466.5	1303.2	1171.9	1071.2	994.0	937.3	902.8	862.7	809.1	765.1
47.5°	1584.4	1401.4	1233.1	1097.3	993.4	922.0	867.8	834.0	804.6	762.6	721.1
50°	1488.1	1326.8	1156.0	1021.4	917.5	845.4	796.4	766.4	742.2	711.6	677.8
52.5°	1380.4	1233.1	1080.1	947.5	844.8	774.0	726.2	700.7	681.6	661.8	628.7
55°	1265.0	1137.5	992.1	865.9	770.9	701.4	659.3	636.3	619.7	603.2	582.8
57.5°	1140.7	1037.4	904.1	786.2	698.2	633.1	593.6	570.0	556.6	547.7	534.9
60°	1008.0	922.6	811.7	706.5	621.0	564.9	526.7	509.4	498.6	491.6	482.7
62.5°	885.0	818.7	717.9	624.2	552.2	499.9	466.7	450.1	439.9	437.4	430.4
65°	764.5	710.3	625.5	545.8	482.0	436.8	408.1	392.1	385.7	381.9	382.6
67.5°	643.3	608.3	537.5	467.4	415.1	374.9	351.3	339.2	336.0	330.3	330.3
70°	534.3	509.4	452.1	392.8	347.5	318.2	297.8	285.0	281.8	279.3	278.6
72.5°	438.0	417.0	369.2	324.5	285.0	260.1	244.2	237.8	232.1	230.8	230.8
75°	343.7	331.5	292.0	254.4	226.3	208.5	197.0	190.0	186.2	185.5	186.2
77.5°	259.5	248.0	220.6	192.6	174.1	160.0	149.2	147.3	142.2	142.8	141.5
80°	183.6	176.6	160.7	139.6	125.0	113.5	108.4	103.9	102.7	100.7	102.7
82.5°	120.5	112.9	103.3	91.8	80.3	74.6	69.5	68.9	68.2	67.6	67.6
85°	65.7	66.3	59.9	49.7	44.6	40.8	37.6	37.6	37.0	36.3	37.0
87.5°	28.1	26.8	24.2	22.3	19.1	17.2	16.6	17.2	15.3	14.7	15.3
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: P242813

CATALOG NUMBER: S125DR-S1090D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2	1502.2
2.5°	1469.7	1462.6	1456.9	1444.1	1437.1	1427.6	1419.9	1428.2	1419.3	1423.1	1417.4
5°	1430.1	1412.3	1399.5	1381.0	1365.1	1350.4	1339.6	1337.7	1332.6	1330.0	1322.4
7.5°	1382.9	1362.5	1341.5	1318.5	1299.4	1279.0	1266.9	1255.4	1248.4	1239.5	1232.5
10°	1342.1	1312.2	1286.7	1257.3	1231.8	1209.5	1191.7	1182.7	1174.4	1162.3	1157.9
12.5°	1291.8	1260.5	1228.0	1196.1	1171.9	1146.4	1131.7	1117.1	1112.0	1097.9	1097.3
15°	1253.5	1207.0	1176.4	1144.5	1110.7	1090.3	1077.5	1062.9	1056.5	1046.9	1039.9
17.5°	1206.3	1164.2	1126.0	1093.5	1062.9	1046.3	1029.7	1019.5	1008.7	1001.7	990.2
20°	1154.0	1114.5	1076.3	1041.2	1018.9	999.1	986.4	976.8	965.3	962.1	950.7
22.5°	1110.0	1065.4	1029.1	1001.0	976.2	953.2	939.2	933.4	926.4	914.9	914.9
25°	1061.6	1016.3	985.1	955.8	934.1	913.7	904.1	895.8	888.2	881.2	878.6
27.5°	1020.8	980.6	942.4	915.6	897.1	878.0	869.7	858.8	853.1	847.4	839.7
30°	977.4	936.0	903.5	878.0	857.6	841.0	832.1	825.0	819.9	814.8	811.0
32.5°	932.8	895.2	863.9	839.1	818.7	807.2	799.5	795.1	789.3	783.0	777.9
35°	894.5	852.5	821.9	800.2	784.2	774.7	765.7	761.3	754.9	754.9	749.8
37.5°	849.3	812.3	784.9	765.1	751.1	742.2	732.0	729.4	724.9	722.4	720.5
40°	809.7	776.0	750.4	730.7	715.4	708.4	700.7	695.6	693.1	689.9	688.6
42.5°	768.9	737.1	712.8	695.0	682.2	676.5	669.5	666.3	660.5	656.1	655.4
45°	727.5	696.3	673.9	659.3	647.8	640.8	636.3	628.7	626.1	621.0	620.4
47.5°	689.2	658.6	636.3	624.2	614.0	608.9	601.9	593.6	590.4	587.2	586.6
50°	645.2	617.8	597.4	585.9	576.4	568.1	561.1	556.0	554.1	554.1	555.3
52.5°	600.6	578.3	561.7	547.1	538.1	529.2	522.8	520.3	517.1	520.9	523.5
55°	557.3	533.7	520.9	507.5	498.6	488.4	485.2	483.9	482.0	487.1	489.7
57.5°	510.7	494.8	479.5	465.4	457.8	451.4	446.3	445.7	449.5	450.8	458.4
60°	466.7	447.6	434.2	424.0	414.4	410.6	409.3	408.1	410.6	417.6	428.5
62.5°	418.3	403.6	388.9	381.9	375.5	368.5	368.5	369.8	375.5	383.8	394.7
65°	371.1	357.7	348.1	339.2	333.5	329.6	330.9	333.5	339.2	350.0	362.2
67.5°	322.6	313.7	304.8	296.5	290.7	291.4	292.0	295.2	302.2	315.0	326.4
70°	276.1	265.9	258.9	255.7	251.2	248.7	252.5	258.9	264.6	276.1	285.6
72.5°	229.5	221.2	216.1	214.2	213.0	211.0	211.7	218.7	227.0	238.5	249.9
75°	183.6	180.4	176.6	174.1	172.2	173.4	174.7	181.1	187.5	199.6	212.3
77.5°	142.2	138.4	135.8	135.2	133.9	134.5	137.7	142.8	149.2	158.1	168.3
80°	101.4	100.1	98.8	98.2	98.2	98.8	103.9	107.1	112.9	121.1	128.8
82.5°	66.9	66.3	66.3	66.3	66.9	66.9	69.5	74.0	78.4	84.2	90.5
85°	38.9	37.6	39.5	40.2	38.9	40.8	42.1	44.6	46.5	49.7	52.9
87.5°	15.9	17.2	16.6	17.2	17.2	18.5	17.9	20.4	21.7	23.0	22.3
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: P242813

CATALOG NUMBER: S125DR-S1090D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1502.2	1502.2	1502.2	1502.2
2.5°	1413.5	1418.0	1414.2	1419.3
5°	1319.2	1313.4	1317.3	1314.7
7.5°	1231.8	1226.7	1219.1	1216.5
10°	1150.9	1143.8	1143.2	1138.7
12.5°	1091.6	1085.2	1076.3	1075.0
15°	1036.1	1031.0	1026.5	1030.4
17.5°	988.9	984.4	983.2	979.3
20°	944.9	941.7	943.0	934.7
22.5°	909.8	902.8	901.6	901.6
25°	872.9	869.7	866.5	869.7
27.5°	840.3	837.2	835.9	836.5
30°	811.0	804.6	805.3	804.6
32.5°	779.1	775.3	774.0	772.8
35°	747.9	747.9	744.7	744.7
37.5°	719.2	718.6	716.7	717.9
40°	686.1	685.4	683.5	679.7
42.5°	654.2	651.6	651.0	650.3
45°	620.4	620.4	619.1	618.5
47.5°	587.2	588.5	591.0	590.4
50°	557.9	558.5	560.4	561.1
52.5°	525.4	529.8	532.4	531.8
55°	495.4	499.9	504.3	505.0
57.5°	465.4	471.2	475.6	476.9
60°	434.8	443.1	448.9	451.4
62.5°	405.5	415.1	420.8	420.8
65°	373.0	382.6	387.7	391.5
67.5°	339.2	348.8	353.9	357.1
70°	301.6	311.1	318.8	321.3
72.5°	264.6	272.9	278.6	281.8
75°	220.6	232.1	237.8	241.0
77.5°	178.5	190.0	193.2	195.1
80°	136.4	142.8	147.3	147.9
82.5°	96.9	102.0	102.7	104.6
85°	57.4	59.9	60.6	59.9
87.5°	23.6	23.0	23.0	24.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)