

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: P243669

Luminaire Tested: **S125DR-H1270D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243669  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-61)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-H1270D830-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4658.8 lumens  
Efficiency: N/A  
Efficacy: 123.6 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.22 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

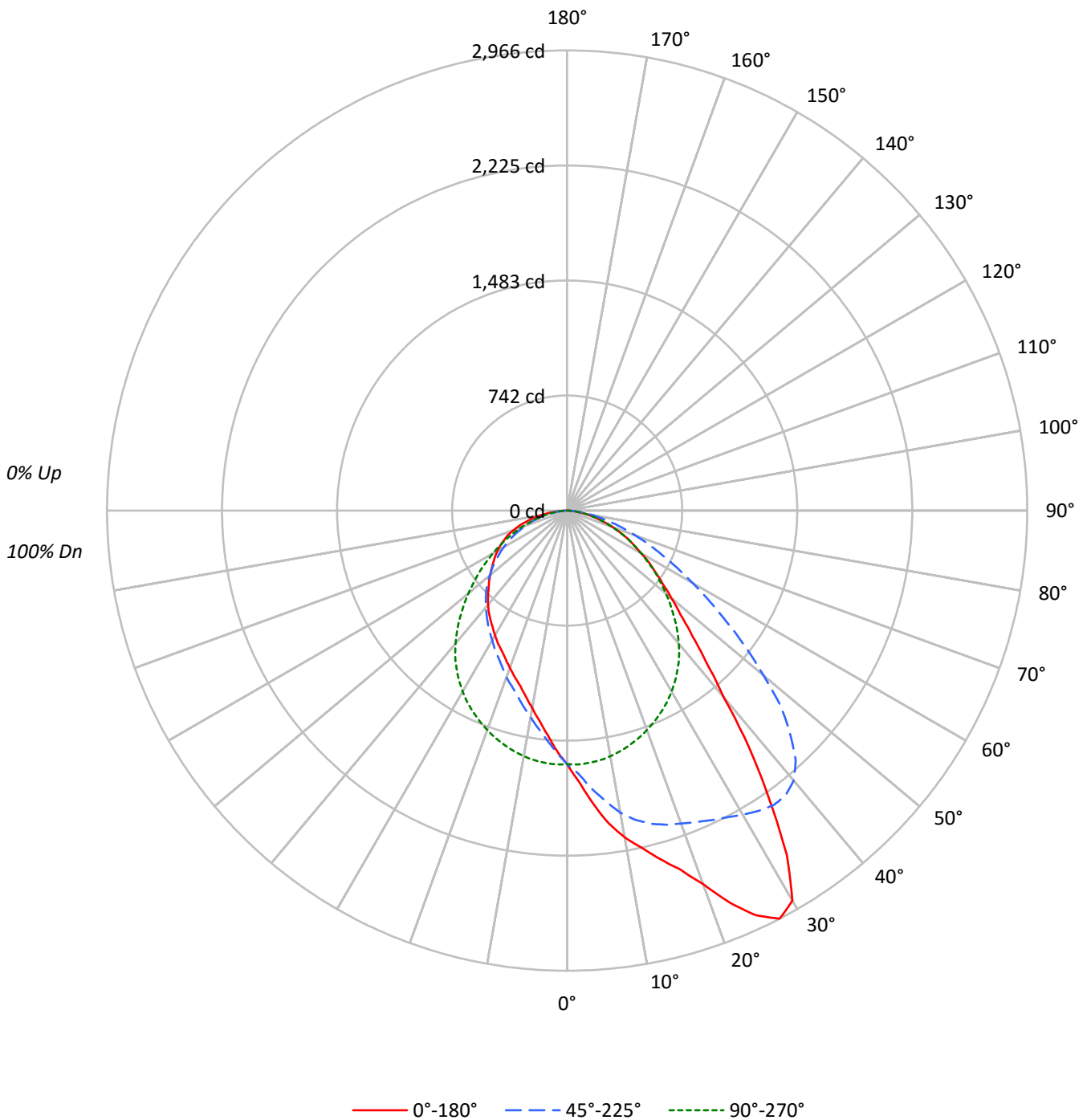
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	56	66	61	56	64	59	55	53
5	78	65	56	50	75	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	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	36	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°	11618	11618	11618
5°	13497	11643	10348
10°	15442	11606	9338
15°	17120	11501	8604
20°	19383	11386	8163
25°	22571	11238	7819
30°	23828	11055	7627
35°	19704	10784	7465
40°	14576	10394	7356
45°	11459	9827	7196
50°	9704	9191	7168
55°	8640	8559	7196
60°	7839	7858	7349
65°	7268	7201	7558
70°	6529	6446	7604
75°	5569	5662	7500
80°	4560	4641	6999
85°	3131	3295	5945



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.9	3.4
10°-20°	471.9	10.1
20°-30°	767.1	16.5
30°-40°	933.3	20.0
40°-50°	854.0	18.3
50°-60°	683.5	14.7
60°-70°	476.0	10.2
70°-80°	253.0	5.4
80°-90°	62.1	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°	1396.9	30.0
0°-40°	2330.2	50.0
0°-60°	3867.7	83.0
0°-90°	4658.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4658.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1635	1635	1635	1635	1635	
5°	1892	1796	1632	1485	1450	188
15°	2327	2089	1563	1236	1169	667
25°	2878	2201	1433	1047	997	1314
35°	2271	2318	1243	891	860	1408
45°	1140	2032	978	738	716	899
55°	697	1261	691	563	581	629
65°	432	674	428	378	449	425
75°	203	298	206	198	273	219
85°	38	57	40	46	73	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6
2.5°	1750.0	1742.7	1740.7	1741.4	1737.4	1734.1	1726.1	1715.5	1708.2	1698.9	1696.3
5°	1891.8	1873.9	1877.3	1871.9	1863.3	1852.1	1842.1	1826.2	1811.0	1796.4	1777.2
7.5°	2031.0	2027.7	2018.4	2017.1	2003.2	1984.0	1964.1	1942.2	1909.7	1887.2	1861.3
10°	2139.7	2146.4	2133.1	2133.8	2109.3	2090.0	2072.8	2044.3	2007.8	1977.3	1939.6
12.5°	2227.2	2229.9	2227.9	2219.3	2203.4	2170.9	2154.3	2124.5	2084.7	2043.0	2013.8
15°	2326.7	2319.4	2308.1	2297.5	2274.3	2251.1	2216.6	2181.5	2131.1	2089.4	2046.9
17.5°	2426.1	2424.8	2410.9	2388.3	2359.2	2328.7	2277.0	2231.9	2178.2	2123.2	2070.1
20°	2562.7	2555.4	2534.8	2509.0	2455.3	2412.2	2347.9	2286.2	2216.0	2147.0	2085.4
22.5°	2733.7	2709.8	2689.3	2649.5	2587.9	2512.9	2440.7	2351.2	2253.1	2172.2	2095.3
25°	2878.2	2867.6	2845.7	2801.3	2731.0	2640.9	2533.5	2432.1	2308.8	2201.4	2101.3
27.5°	2965.7	2961.0	2947.8	2906.0	2847.7	2758.2	2643.5	2514.3	2374.4	2229.2	2109.3
30°	2903.4	2904.0	2911.3	2906.7	2880.8	2823.2	2721.1	2591.2	2429.4	2262.4	2111.2
32.5°	2635.6	2653.5	2710.5	2737.7	2774.1	2786.0	2740.3	2632.3	2475.8	2295.5	2117.9
35°	2271.0	2314.7	2353.2	2432.7	2527.5	2605.1	2650.2	2615.0	2495.0	2318.1	2121.2
37.5°	1927.6	1924.3	1984.0	2070.1	2170.9	2302.8	2430.8	2501.0	2461.9	2313.4	2115.2
40°	1571.0	1601.5	1638.6	1714.8	1832.8	1995.2	2147.7	2298.2	2352.5	2272.3	2092.0
42.5°	1327.1	1341.0	1378.1	1437.8	1522.6	1688.3	1838.8	2032.4	2171.6	2180.8	2041.0
45°	1140.1	1155.4	1166.0	1225.0	1303.9	1415.2	1569.7	1764.6	1951.5	2032.4	1958.1
47.5°	990.3	998.9	1022.1	1057.9	1109.6	1208.4	1331.7	1508.7	1712.2	1869.3	1844.1
50°	877.6	884.3	902.8	922.7	965.1	1038.1	1137.5	1282.7	1478.2	1649.9	1706.2
52.5°	778.2	786.8	796.1	815.3	854.4	903.5	984.4	1097.7	1279.3	1455.0	1544.5
55°	697.3	700.7	710.6	725.2	755.0	792.1	856.4	959.2	1086.4	1261.4	1384.7
57.5°	627.1	623.8	634.4	644.3	664.2	695.4	741.8	818.0	939.3	1088.4	1217.0
60°	551.5	554.8	562.8	570.7	584.7	611.8	648.3	709.3	798.1	932.0	1063.2
62.5°	486.5	489.2	491.2	502.5	515.1	534.3	564.1	613.8	687.4	798.1	915.4
65°	432.2	427.6	430.2	438.2	448.1	464.0	491.9	528.3	583.3	673.5	770.9
67.5°	368.6	369.9	370.5	375.2	383.8	399.0	418.9	448.8	493.8	564.8	650.3
70°	314.2	314.9	315.5	319.5	326.8	335.4	349.3	372.5	411.0	466.0	532.9
72.5°	258.5	261.2	261.2	264.5	269.8	274.4	287.7	306.9	336.1	379.8	436.2
75°	202.8	207.5	208.8	212.8	217.4	218.7	228.7	243.9	262.5	298.3	342.7
77.5°	157.8	157.8	160.4	165.1	165.1	169.0	179.6	186.3	200.9	225.4	259.2
80°	111.4	113.4	113.4	114.7	117.3	120.6	125.3	131.2	143.8	161.7	179.6
82.5°	72.9	73.6	74.2	77.6	76.2	79.5	81.5	88.8	94.8	103.4	114.7
85°	38.4	38.4	39.1	41.1	43.1	43.7	45.1	48.4	53.0	57.0	63.6
87.5°	15.9	15.2	15.2	16.6	16.6	17.2	17.9	19.2	21.9	21.9	24.5
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6
2.5°	1694.3	1689.0	1679.7	1671.8	1661.8	1654.5	1647.2	1638.0	1628.7	1618.7	1608.1
5°	1761.9	1746.0	1728.1	1710.2	1689.0	1671.8	1653.2	1632.0	1614.1	1594.2	1573.0
7.5°	1839.5	1811.6	1780.5	1745.3	1712.2	1682.4	1651.9	1622.7	1596.2	1566.4	1537.2
10°	1914.4	1866.0	1826.9	1779.1	1732.1	1688.3	1646.6	1608.1	1569.7	1532.6	1496.8
12.5°	1965.4	1910.4	1861.3	1806.3	1751.3	1696.3	1641.3	1588.2	1542.5	1497.4	1459.6
15°	2000.5	1962.1	1897.1	1830.9	1758.6	1687.0	1624.7	1563.1	1508.7	1456.3	1411.3
17.5°	2022.4	1972.7	1909.1	1839.5	1759.9	1685.0	1610.1	1536.5	1474.2	1417.9	1366.8
20°	2028.4	1970.1	1903.8	1831.5	1752.0	1669.8	1585.6	1505.4	1437.8	1373.5	1321.8
22.5°	2022.4	1954.8	1883.9	1813.6	1730.1	1646.6	1558.4	1470.9	1393.4	1327.1	1272.7
25°	2012.5	1930.9	1856.7	1773.8	1696.3	1616.7	1525.9	1433.1	1352.3	1283.3	1222.3
27.5°	1999.9	1906.4	1814.9	1733.4	1649.2	1571.0	1487.5	1392.7	1308.5	1232.9	1175.9
30°	1985.3	1873.9	1772.5	1675.7	1596.2	1518.0	1436.4	1347.0	1262.1	1189.9	1128.2
32.5°	1968.7	1839.5	1720.2	1616.1	1531.2	1459.0	1382.8	1297.2	1213.7	1136.2	1082.5
35°	1945.5	1792.4	1663.8	1551.1	1463.0	1384.7	1317.8	1242.9	1160.0	1087.8	1032.1
37.5°	1918.4	1750.6	1606.8	1484.8	1388.7	1308.5	1246.9	1185.9	1108.3	1038.7	985.0
40°	1881.9	1700.3	1546.5	1414.6	1311.8	1232.9	1172.6	1120.3	1056.0	985.7	937.3
42.5°	1834.2	1644.6	1478.2	1337.7	1238.2	1154.1	1097.7	1050.0	995.0	934.0	886.3
45°	1779.8	1580.9	1402.0	1264.1	1156.0	1075.8	1020.8	977.7	936.0	881.6	837.2
47.5°	1695.0	1506.0	1333.0	1180.6	1074.5	997.0	945.3	904.2	873.0	829.9	786.2
50°	1594.2	1421.2	1251.5	1098.4	991.0	916.1	867.0	831.2	804.7	771.6	738.4
52.5°	1483.5	1325.7	1162.0	1018.8	911.4	840.5	788.8	757.0	739.8	713.2	687.4
55°	1354.2	1218.4	1065.9	935.3	829.9	757.7	713.2	690.7	671.5	658.2	635.0
57.5°	1224.3	1109.6	973.8	844.5	747.7	683.4	643.6	618.5	604.5	595.3	578.7
60°	1082.5	992.3	867.7	755.7	669.5	608.5	573.4	552.8	540.2	534.9	523.7
62.5°	947.2	878.3	765.0	671.5	594.6	540.9	505.8	489.2	481.2	475.3	468.7
65°	814.0	759.7	670.2	582.7	517.7	469.3	441.5	428.2	422.2	415.6	415.0
67.5°	694.0	644.3	572.7	501.1	446.8	405.7	381.2	367.9	361.3	361.9	358.6
70°	576.0	537.6	479.3	420.9	374.5	342.0	318.8	310.2	307.6	306.9	304.3
72.5°	466.0	444.1	393.1	344.0	307.6	282.4	263.8	256.5	253.2	251.9	251.9
75°	369.2	353.3	309.6	272.4	244.6	224.1	211.5	206.2	201.5	204.2	202.2
77.5°	277.1	263.8	234.0	207.5	186.3	169.0	163.1	158.4	155.8	155.1	157.8
80°	194.9	186.9	168.4	147.2	131.2	121.3	117.3	113.4	111.4	110.0	111.4
82.5°	125.3	120.6	107.4	94.8	85.5	80.2	76.2	74.2	70.9	71.6	72.9
85°	68.3	67.0	58.3	54.4	45.7	45.1	42.4	40.4	41.1	39.8	41.8
87.5°	27.8	26.5	24.5	22.5	19.9	17.9	16.6	17.9	15.9	17.9	17.2
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6	1634.6
2.5°	1602.8	1595.5	1586.9	1579.0	1567.0	1559.1	1555.1	1556.4	1551.8	1550.5	1549.8
5°	1560.4	1543.8	1527.9	1514.7	1500.7	1484.8	1473.6	1470.2	1468.9	1465.6	1458.3
7.5°	1516.7	1495.4	1474.9	1455.7	1435.8	1417.2	1406.0	1396.7	1391.4	1382.1	1380.1
10°	1470.2	1444.4	1422.5	1394.7	1370.8	1351.6	1337.0	1329.1	1324.4	1315.8	1308.5
12.5°	1425.8	1398.7	1364.9	1339.7	1314.5	1294.6	1278.0	1264.8	1261.4	1250.2	1244.2
15°	1378.1	1345.0	1314.5	1285.3	1261.4	1236.3	1226.3	1214.4	1202.4	1192.5	1190.5
17.5°	1332.4	1292.6	1262.8	1234.3	1205.1	1186.5	1173.3	1165.3	1156.0	1150.7	1141.5
20°	1277.4	1244.9	1211.7	1185.2	1160.0	1144.1	1126.2	1118.9	1112.3	1099.7	1095.7
22.5°	1231.0	1191.8	1164.0	1137.5	1115.0	1092.4	1079.8	1072.5	1062.6	1056.0	1050.7
25°	1182.6	1150.1	1115.0	1088.4	1069.2	1046.7	1038.1	1028.8	1020.2	1014.2	1008.9
27.5°	1135.5	1099.7	1071.2	1044.7	1024.8	1008.9	997.0	987.0	981.0	976.4	973.1
30°	1086.4	1053.3	1026.8	1002.3	979.7	966.5	955.2	951.2	944.6	941.3	936.0
32.5°	1042.0	1008.2	983.0	961.8	941.9	928.7	922.1	916.1	909.5	903.5	902.8
35°	991.7	962.5	939.3	916.1	901.5	890.9	883.6	877.6	872.3	867.7	865.0
37.5°	947.2	919.4	893.6	877.0	861.1	851.8	843.8	841.8	836.5	837.2	833.2
40°	899.5	874.3	852.5	835.9	825.3	815.3	810.0	803.4	800.1	800.7	797.4
42.5°	853.1	829.9	810.0	794.8	783.5	776.2	771.6	766.3	762.3	759.7	759.0
45°	806.1	785.5	768.9	753.7	744.4	737.8	731.8	725.2	721.9	720.5	719.9
47.5°	759.7	741.1	723.2	712.6	704.0	698.0	692.0	686.7	684.1	682.1	678.8
50°	711.9	693.4	680.8	667.5	660.2	652.3	645.6	643.0	639.7	639.0	642.3
52.5°	662.2	647.6	636.4	625.8	617.1	608.5	601.9	598.6	600.6	600.6	604.5
55°	615.1	599.9	589.3	580.7	571.4	563.4	556.8	556.8	556.8	560.8	566.1
57.5°	562.8	549.5	541.6	531.6	523.0	517.7	513.1	512.4	515.1	521.7	527.6
60°	509.7	500.5	491.9	483.9	475.3	471.3	470.6	469.3	473.3	479.9	492.5
62.5°	457.4	451.4	440.8	436.8	429.5	424.9	424.9	426.2	432.2	442.8	454.1
65°	407.0	398.4	390.4	386.5	381.8	377.8	377.8	383.1	391.8	401.7	415.6
67.5°	355.3	348.0	342.7	338.7	333.4	331.4	333.4	339.4	350.0	359.9	374.5
70°	299.6	298.3	293.7	288.3	285.7	285.7	287.7	294.3	302.3	317.5	330.1
72.5°	248.6	248.6	245.9	242.6	240.6	242.6	243.9	250.6	260.5	273.8	287.7
75°	202.2	200.2	198.2	196.9	196.2	197.5	199.5	204.8	216.8	229.4	240.6
77.5°	156.4	155.1	153.1	154.4	154.4	155.1	161.1	167.0	173.7	183.6	195.5
80°	112.7	113.4	111.4	110.7	114.0	115.3	120.0	124.6	129.3	140.5	149.1
82.5°	74.2	75.6	74.9	76.2	77.6	77.6	82.9	87.5	91.5	99.4	106.1
85°	42.4	43.1	43.1	45.1	46.4	45.7	50.4	53.0	55.0	61.0	65.0
87.5°	18.6	19.2	19.9	19.9	19.9	22.5	23.2	24.5	25.2	26.5	28.5
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: P243669

CATALOG NUMBER: S125DR-H1270D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1634.6	1634.6	1634.6	1634.6
2.5°	1543.8	1543.2	1546.5	1548.5
5°	1453.7	1451.7	1449.0	1450.4
7.5°	1373.5	1368.2	1366.8	1366.8
10°	1302.5	1297.2	1295.9	1293.9
12.5°	1242.2	1234.3	1231.0	1227.6
15°	1185.2	1183.9	1176.6	1169.3
17.5°	1132.8	1134.8	1127.5	1124.2
20°	1089.1	1083.1	1080.5	1079.2
22.5°	1044.7	1040.0	1040.0	1035.4
25°	1004.9	1000.9	1001.6	997.0
27.5°	967.8	967.1	966.5	965.1
30°	933.3	930.7	928.0	929.3
32.5°	900.2	896.2	894.2	893.6
35°	865.7	864.4	861.7	860.4
37.5°	831.9	832.6	829.3	828.6
40°	795.4	794.8	794.1	792.8
42.5°	757.0	755.0	756.3	755.7
45°	718.6	716.6	717.9	715.9
47.5°	680.8	682.1	682.1	682.8
50°	643.6	646.3	646.3	648.3
52.5°	609.2	614.5	614.5	613.8
55°	572.1	578.0	580.0	580.7
57.5°	536.9	542.9	548.9	550.2
60°	499.1	509.7	515.7	517.0
62.5°	465.3	475.3	483.2	483.9
65°	427.6	439.5	446.8	449.4
67.5°	389.1	398.4	408.3	412.3
70°	345.4	356.6	363.3	365.9
72.5°	299.6	312.2	320.8	322.2
75°	255.9	265.1	271.8	273.1
77.5°	206.2	215.4	221.4	222.7
80°	156.4	164.4	168.4	171.0
82.5°	110.7	116.0	118.0	120.6
85°	68.3	72.3	72.9	72.9
87.5°	29.8	30.5	30.5	31.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)