

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: P243673

Luminaire Tested: **S125DR-H1090D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243673
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-H1090D835-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4231.2 lumens
Efficiency: N/A
Efficacy: 134.3 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

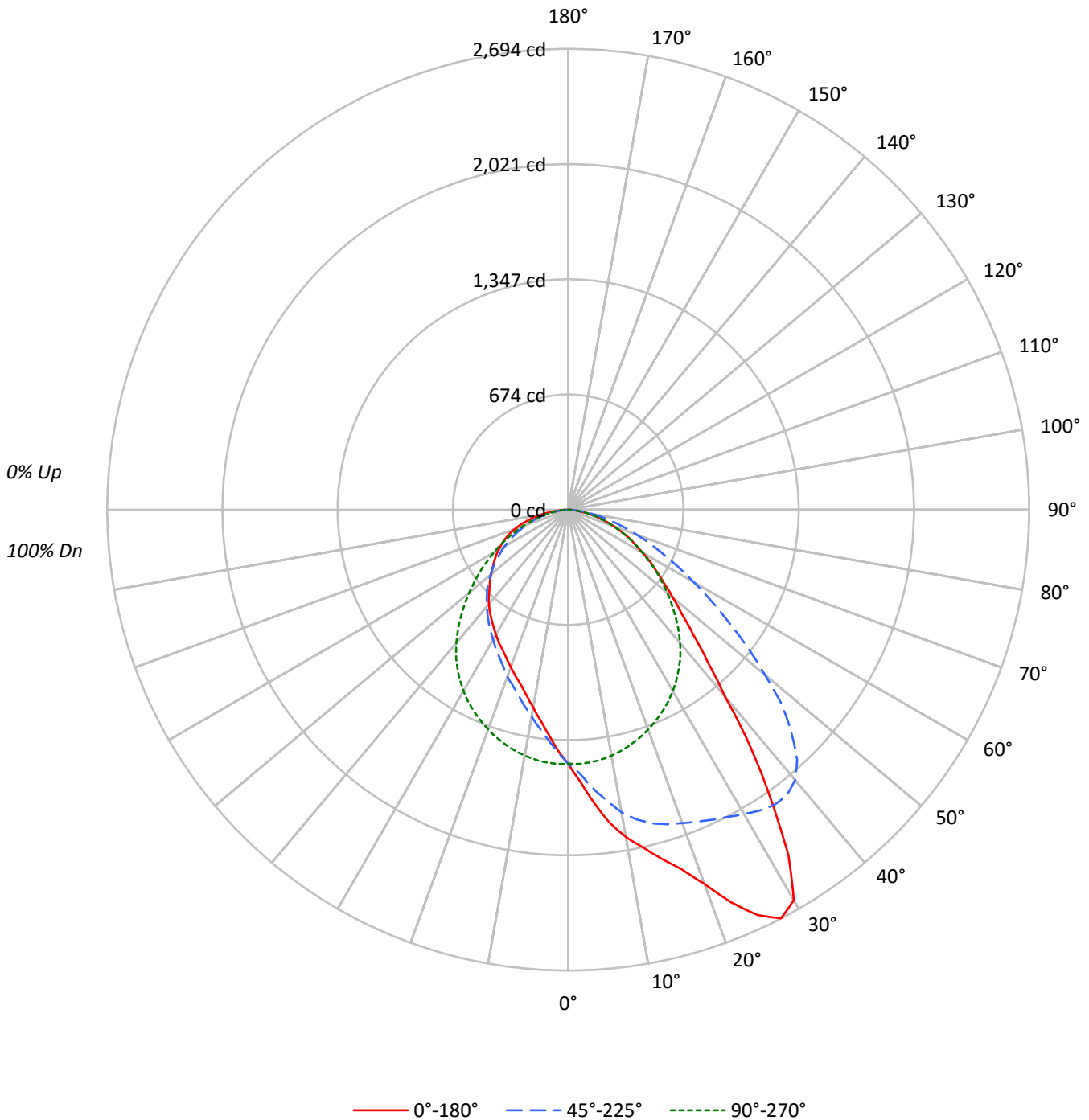
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10552	10552	10552
5°	12258	10575	9398
10°	14025	10540	8481
15°	15548	10446	7814
20°	17603	10341	7413
25°	20499	10207	7100
30°	21641	10039	6927
35°	17895	9794	6780
40°	13238	9439	6680
45°	10408	8926	6535
50°	8814	8347	6510
55°	7847	7773	6535
60°	7120	7137	6675
65°	6601	6540	6865
70°	5931	5854	6905
75°	5058	5141	6810
80°	4138	4212	6356
85°	2846	2993	5398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.4	3.4
10°-20°	428.6	10.1
20°-30°	696.7	16.5
30°-40°	847.6	20.0
40°-50°	775.6	18.3
50°-60°	620.7	14.7
60°-70°	432.3	10.2
70°-80°	229.8	5.4
80°-90°	56.4	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°	1268.7	30.0
0°-40°	2116.3	50.0
0°-60°	3512.7	83.0
0°-90°	4231.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4231.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1485	1485	1485	1485	1485	
5°	1718	1632	1482	1348	1317	171
15°	2113	1898	1420	1123	1062	606
25°	2614	1999	1302	951	905	1194
35°	2062	2105	1129	809	781	1279
45°	1036	1846	888	670	650	817
55°	633	1146	627	512	527	571
65°	392	612	389	343	408	386
75°	184	271	187	179	248	199
85°	35	52	37	42	66	45
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°	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6
2.5°	1589.3	1582.7	1580.9	1581.5	1577.9	1574.9	1567.7	1558.0	1551.4	1543.0	1540.6
5°	1718.2	1701.9	1704.9	1700.1	1692.3	1682.1	1673.0	1658.6	1644.7	1631.5	1614.0
7.5°	1844.6	1841.6	1833.2	1832.0	1819.3	1801.9	1783.8	1763.9	1734.4	1714.0	1690.5
10°	1943.3	1949.4	1937.3	1937.9	1915.6	1898.2	1882.5	1856.6	1823.5	1795.8	1761.5
12.5°	2022.8	2025.2	2023.4	2015.6	2001.1	1971.6	1956.6	1929.5	1893.4	1855.4	1829.0
15°	2113.1	2106.5	2096.3	2086.6	2065.5	2044.5	2013.2	1981.3	1935.5	1897.6	1859.1
17.5°	2203.4	2202.2	2189.6	2169.1	2142.6	2114.9	2068.0	2027.0	1978.3	1928.3	1880.1
20°	2327.4	2320.8	2302.1	2278.7	2229.9	2190.8	2132.4	2076.4	2012.6	1950.0	1894.0
22.5°	2482.8	2461.1	2442.4	2406.3	2350.3	2282.3	2216.7	2135.4	2046.3	1972.8	1903.0
25°	2614.0	2604.4	2584.5	2544.2	2480.3	2398.5	2300.9	2208.8	2096.9	1999.3	1908.4
27.5°	2693.5	2689.2	2677.2	2639.3	2586.3	2505.0	2400.9	2283.5	2156.5	2024.6	1915.6
30°	2636.9	2637.5	2644.1	2639.9	2616.4	2564.0	2471.3	2353.3	2206.4	2054.7	1917.5
32.5°	2393.7	2409.9	2461.7	2486.4	2519.5	2530.3	2488.8	2390.6	2248.6	2084.8	1923.5
35°	2062.5	2102.3	2137.2	2209.4	2295.5	2366.0	2406.9	2375.0	2266.0	2105.3	1926.5
37.5°	1750.7	1747.7	1801.9	1880.1	1971.6	2091.4	2207.6	2271.4	2235.9	2101.1	1921.1
40°	1426.8	1454.5	1488.2	1557.4	1664.6	1812.1	1950.6	2087.2	2136.6	2063.7	1900.0
42.5°	1205.3	1217.9	1251.6	1305.8	1382.9	1533.4	1670.0	1845.8	1972.2	1980.7	1853.6
45°	1035.5	1049.3	1059.0	1112.5	1184.2	1285.3	1425.6	1602.6	1772.4	1845.8	1778.4
47.5°	899.4	907.3	928.3	960.8	1007.8	1097.5	1209.5	1370.2	1555.0	1697.7	1674.8
50°	797.1	803.1	820.0	838.0	876.5	942.8	1033.1	1164.9	1342.5	1498.4	1549.6
52.5°	706.8	714.6	723.0	740.5	776.0	820.6	894.0	997.0	1161.9	1321.4	1402.7
55°	633.3	636.3	645.4	658.6	685.7	719.4	777.8	871.1	986.7	1145.7	1257.6
57.5°	569.5	566.5	576.1	585.2	603.2	631.5	673.7	742.9	853.1	988.5	1105.3
60°	500.9	503.9	511.1	518.3	531.0	555.7	588.8	644.2	724.8	846.4	965.6
62.5°	441.9	444.3	446.1	456.3	467.8	485.2	512.3	557.5	624.3	724.8	831.4
65°	392.5	388.3	390.7	397.9	407.0	421.4	446.7	479.8	529.8	611.7	700.2
67.5°	334.7	335.9	336.5	340.7	348.6	362.4	380.5	407.6	448.5	512.9	590.6
70°	285.4	286.0	286.6	290.2	296.8	304.6	317.3	338.3	373.3	423.2	484.0
72.5°	234.8	237.2	237.2	240.2	245.0	249.2	261.3	278.7	305.2	345.0	396.1
75°	184.2	188.4	189.6	193.3	197.5	198.7	207.7	221.5	238.4	270.9	311.2
77.5°	143.3	143.3	145.7	149.9	149.9	153.5	163.1	169.2	182.4	204.7	235.4
80°	101.1	102.9	102.9	104.2	106.6	109.6	113.8	119.2	130.6	146.9	163.1
82.5°	66.2	66.8	67.4	70.4	69.2	72.2	74.0	80.7	86.1	93.9	104.2
85°	34.9	34.9	35.5	37.3	39.1	39.7	40.9	43.9	48.2	51.8	57.8
87.5°	14.4	13.8	13.8	15.1	15.1	15.7	16.3	17.5	19.9	19.9	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6
2.5°	1538.8	1534.0	1525.5	1518.3	1509.3	1502.7	1496.0	1487.6	1479.2	1470.1	1460.5
5°	1600.2	1585.7	1569.5	1553.2	1534.0	1518.3	1501.5	1482.2	1465.9	1447.9	1428.6
7.5°	1670.6	1645.3	1617.0	1585.1	1555.0	1527.9	1500.2	1473.8	1449.7	1422.6	1396.1
10°	1738.6	1694.7	1659.2	1615.8	1573.1	1533.4	1495.4	1460.5	1425.6	1391.9	1359.4
12.5°	1785.0	1735.0	1690.5	1640.5	1590.6	1540.6	1490.6	1442.5	1400.9	1360.0	1325.7
15°	1816.9	1782.0	1723.0	1662.8	1597.2	1532.2	1475.6	1419.6	1370.2	1322.6	1281.7
17.5°	1836.8	1791.6	1733.8	1670.6	1598.4	1530.3	1462.3	1395.5	1338.9	1287.7	1241.4
20°	1842.2	1789.2	1729.0	1663.4	1591.2	1516.5	1440.0	1367.2	1305.8	1247.4	1200.4
22.5°	1836.8	1775.4	1711.0	1647.1	1571.3	1495.4	1415.4	1335.9	1265.5	1205.3	1155.9
25°	1827.7	1753.7	1686.3	1611.0	1540.6	1468.3	1385.9	1301.6	1228.1	1165.5	1110.1
27.5°	1816.3	1731.4	1648.3	1574.3	1497.8	1426.8	1350.9	1264.9	1188.4	1119.8	1068.0
30°	1803.1	1701.9	1609.8	1521.9	1449.7	1378.6	1304.6	1223.3	1146.3	1080.6	1024.6
32.5°	1788.0	1670.6	1562.3	1467.7	1390.7	1325.1	1255.8	1178.2	1102.3	1031.9	983.1
35°	1766.9	1627.9	1511.1	1408.7	1328.7	1257.6	1196.8	1128.8	1053.5	987.9	937.4
37.5°	1742.3	1589.9	1459.3	1348.5	1261.2	1188.4	1132.4	1077.0	1006.6	943.4	894.6
40°	1709.2	1544.2	1404.5	1284.7	1191.4	1119.8	1065.0	1017.4	959.0	895.2	851.3
42.5°	1665.8	1493.6	1342.5	1214.9	1124.6	1048.1	997.0	953.6	903.6	848.3	804.9
45°	1616.4	1435.8	1273.3	1148.1	1049.9	977.1	927.1	888.0	850.1	800.7	760.4
47.5°	1539.4	1367.8	1210.7	1072.2	975.9	905.4	858.5	821.2	792.9	753.7	714.0
50°	1447.9	1290.7	1136.6	997.6	900.0	832.0	787.4	754.9	730.9	700.8	670.7
52.5°	1347.3	1204.1	1055.4	925.3	827.8	763.4	716.4	687.5	671.9	647.8	624.3
55°	1229.9	1106.5	968.1	849.5	753.7	688.1	647.8	627.3	609.9	597.8	576.7
57.5°	1111.9	1007.8	884.4	767.0	679.1	620.7	584.6	561.7	549.0	540.6	525.6
60°	983.1	901.2	788.1	686.3	608.0	552.7	520.8	502.1	490.7	485.8	475.6
62.5°	860.3	797.7	694.7	609.9	540.0	491.3	459.3	444.3	437.1	431.7	425.6
65°	739.3	689.9	608.6	529.2	470.2	426.2	400.9	388.9	383.5	377.5	376.9
67.5°	630.3	585.2	520.1	455.1	405.8	368.4	346.2	334.1	328.1	328.7	325.7
70°	523.2	488.2	435.3	382.3	340.1	310.6	289.6	281.7	279.3	278.7	276.3
72.5°	423.2	403.4	357.0	312.5	279.3	256.5	239.6	233.0	230.0	228.8	228.8
75°	335.3	320.9	281.1	247.4	222.1	203.5	192.0	187.2	183.0	185.4	183.6
77.5°	251.6	239.6	212.5	188.4	169.2	153.5	148.1	143.9	141.5	140.9	143.3
80°	177.0	169.8	152.9	133.6	119.2	110.2	106.6	102.9	101.1	99.9	101.1
82.5°	113.8	109.6	97.5	86.1	77.7	72.8	69.2	67.4	64.4	65.0	66.2
85°	62.0	60.8	53.0	49.4	41.5	40.9	38.5	36.7	37.3	36.1	37.9
87.5°	25.3	24.1	22.3	20.5	18.1	16.3	15.1	16.3	14.4	16.3	15.7
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6	1484.6
2.5°	1455.7	1449.1	1441.2	1434.0	1423.2	1416.0	1412.4	1413.6	1409.3	1408.1	1407.5
5°	1417.2	1402.1	1387.7	1375.6	1363.0	1348.5	1338.3	1335.3	1334.1	1331.1	1324.5
7.5°	1377.4	1358.2	1339.5	1322.0	1304.0	1287.1	1276.9	1268.5	1263.7	1255.2	1253.4
10°	1335.3	1311.8	1291.9	1266.7	1245.0	1227.5	1214.3	1207.1	1202.8	1195.0	1188.4
12.5°	1295.0	1270.3	1239.6	1216.7	1193.8	1175.8	1160.7	1148.7	1145.7	1135.4	1130.0
15°	1251.6	1221.5	1193.8	1167.3	1145.7	1122.8	1113.7	1102.9	1092.1	1083.0	1081.2
17.5°	1210.1	1173.9	1146.9	1121.0	1094.5	1077.6	1065.6	1058.4	1049.9	1045.1	1036.7
20°	1160.1	1130.6	1100.5	1076.4	1053.5	1039.1	1022.8	1016.2	1010.2	998.8	995.1
22.5°	1118.0	1082.4	1057.2	1033.1	1012.6	992.1	980.7	974.1	965.0	959.0	954.2
25°	1074.0	1044.5	1012.6	988.5	971.1	950.6	942.8	934.3	926.5	921.1	916.3
27.5°	1031.3	998.8	972.9	948.8	930.7	916.3	905.4	896.4	891.0	886.8	883.8
30°	986.7	956.6	932.5	910.3	889.8	877.8	867.5	863.9	857.9	854.9	850.1
32.5°	946.4	915.7	892.8	873.5	855.5	843.4	837.4	832.0	826.0	820.6	820.0
35°	900.6	874.1	853.1	832.0	818.8	809.1	802.5	797.1	792.3	788.1	785.6
37.5°	860.3	835.0	811.5	796.5	782.0	773.6	766.4	764.6	759.8	760.4	756.7
40°	816.9	794.1	774.2	759.2	749.5	740.5	735.7	729.7	726.6	727.2	724.2
42.5°	774.8	753.7	735.7	721.8	711.6	705.0	700.8	695.9	692.3	689.9	689.3
45°	732.1	713.4	698.3	684.5	676.1	670.1	664.6	658.6	655.6	654.4	653.8
47.5°	689.9	673.1	656.8	647.2	639.4	633.9	628.5	623.7	621.3	619.5	616.5
50°	646.6	629.7	618.3	606.2	599.6	592.4	586.4	584.0	581.0	580.4	583.4
52.5°	601.4	588.2	577.9	568.3	560.5	552.7	546.6	543.6	545.4	545.4	549.0
55°	558.7	544.8	535.2	527.4	518.9	511.7	505.7	505.7	505.7	509.3	514.1
57.5°	511.1	499.1	491.9	482.8	475.0	470.2	466.0	465.4	467.8	473.8	479.2
60°	463.0	454.5	446.7	439.5	431.7	428.0	427.4	426.2	429.8	435.9	447.3
62.5°	415.4	410.0	400.3	396.7	390.1	385.9	385.9	387.1	392.5	402.2	412.4
65°	369.6	361.8	354.6	351.0	346.8	343.2	343.2	348.0	355.8	364.8	377.5
67.5°	322.7	316.1	311.2	307.6	302.8	301.0	302.8	308.2	317.9	326.9	340.1
70°	272.1	270.9	266.7	261.9	259.5	259.5	261.3	267.3	274.5	288.4	299.8
72.5°	225.8	225.8	223.4	220.3	218.5	220.3	221.5	227.6	236.6	248.6	261.3
75°	183.6	181.8	180.0	178.8	178.2	179.4	181.2	186.0	196.9	208.3	218.5
77.5°	142.1	140.9	139.1	140.3	140.3	140.9	146.3	151.7	157.7	166.8	177.6
80°	102.3	102.9	101.1	100.5	103.5	104.8	109.0	113.2	117.4	127.6	135.5
82.5°	67.4	68.6	68.0	69.2	70.4	70.4	75.3	79.5	83.1	90.3	96.3
85°	38.5	39.1	39.1	40.9	42.1	41.5	45.8	48.2	50.0	55.4	59.0
87.5°	16.9	17.5	18.1	18.1	18.1	20.5	21.1	22.3	22.9	24.1	25.9
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: P243673

CATALOG NUMBER: S125DR-H1090D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1484.6	1484.6	1484.6	1484.6
2.5°	1402.1	1401.5	1404.5	1406.3
5°	1320.2	1318.4	1316.0	1317.2
7.5°	1247.4	1242.6	1241.4	1241.4
10°	1183.0	1178.2	1177.0	1175.2
12.5°	1128.2	1121.0	1118.0	1115.0
15°	1076.4	1075.2	1068.6	1062.0
17.5°	1028.9	1030.7	1024.0	1021.0
20°	989.1	983.7	981.3	980.1
22.5°	948.8	944.6	944.6	940.4
25°	912.7	909.1	909.7	905.4
27.5°	879.0	878.4	877.8	876.5
30°	847.7	845.2	842.8	844.0
32.5°	817.6	813.9	812.1	811.5
35°	786.2	785.0	782.6	781.4
37.5°	755.5	756.1	753.1	752.5
40°	722.4	721.8	721.2	720.0
42.5°	687.5	685.7	686.9	686.3
45°	652.6	650.8	652.0	650.2
47.5°	618.3	619.5	619.5	620.1
50°	584.6	587.0	587.0	588.8
52.5°	553.3	558.1	558.1	557.5
55°	519.5	525.0	526.8	527.4
57.5°	487.6	493.1	498.5	499.7
60°	453.3	463.0	468.4	469.6
62.5°	422.6	431.7	438.9	439.5
65°	388.3	399.1	405.8	408.2
67.5°	353.4	361.8	370.8	374.5
70°	313.7	323.9	329.9	332.3
72.5°	272.1	283.6	291.4	292.6
75°	232.4	240.8	246.8	248.0
77.5°	187.2	195.7	201.1	202.3
80°	142.1	149.3	152.9	155.3
82.5°	100.5	105.4	107.2	109.6
85°	62.0	65.6	66.2	66.2
87.5°	27.1	27.7	27.7	28.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)