

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: P242818

Luminaire Tested: **S125DR-S1090D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242818
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-S1090D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4280.9 lumens
Efficiency: N/A
Efficacy: 123.0 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

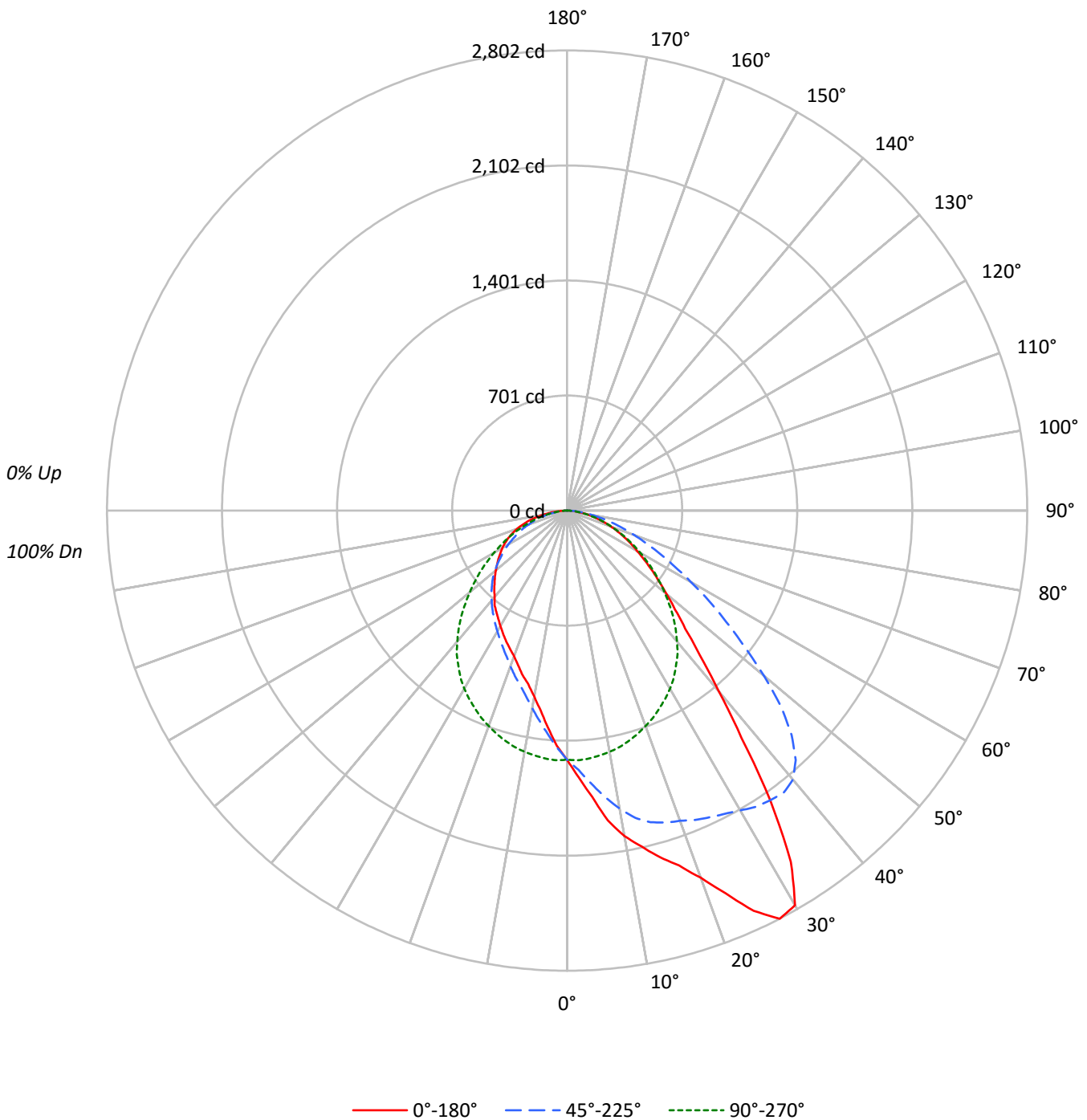
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

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°	10782	10782	10782
5°	12486	10818	9472
10°	14526	10762	8300
15°	16080	10684	7656
20°	18000	10558	7139
25°	21087	10417	6888
30°	22775	10278	6669
35°	18726	10017	6526
40°	13310	9654	6368
45°	10225	9164	6278
50°	8728	8557	6265
55°	7771	7963	6320
60°	7011	7313	6480
65°	6475	6660	6648
70°	5887	5981	6743
75°	5198	5270	6684
80°	4375	4298	6115
85°	3466	3099	4934



TEST NUMBER: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.0	3.4
10°-20°	434.9	10.2
20°-30°	706.4	16.5
30°-40°	863.3	20.2
40°-50°	783.2	18.3
50°-60°	623.8	14.6
60°-70°	434.5	10.1
70°-80°	231.4	5.4
80°-90°	57.4	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°	1287.3	30.1
0°-40°	2150.6	50.2
0°-60°	3557.6	83.1
0°-90°	4280.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4280.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1517	1517	1517	1517	1517	
5°	1750	1667	1516	1364	1328	176
15°	2185	1964	1452	1101	1040	625
25°	2689	2060	1328	923	878	1232
35°	2158	2154	1154	782	752	1324
45°	1017	1932	912	647	625	809
55°	627	1184	643	493	510	564
65°	385	628	396	333	395	382
75°	189	279	192	175	243	204
85°	42	56	38	41	60	50
90°	0	0	0	0	0	



TEST NUMBER: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0
2.5°	1626.4	1623.9	1621.3	1616.1	1620.0	1609.1	1603.9	1594.9	1584.0	1580.1	1575.6
5°	1750.1	1753.3	1756.5	1743.0	1744.3	1735.3	1714.7	1697.9	1684.4	1667.0	1654.8
7.5°	1903.3	1893.7	1894.3	1885.9	1871.1	1858.9	1838.9	1811.2	1786.1	1757.8	1733.3
10°	2012.8	2013.4	2007.6	1997.3	1981.2	1969.6	1941.3	1914.3	1881.4	1842.8	1815.1
12.5°	2095.2	2098.4	2090.7	2075.9	2070.1	2040.5	2019.9	1986.4	1945.8	1916.8	1871.1
15°	2185.3	2178.3	2173.1	2155.7	2142.2	2115.2	2079.7	2046.3	2003.8	1964.5	1925.2
17.5°	2265.2	2271.0	2262.6	2249.7	2209.8	2178.3	2134.5	2092.0	2041.1	1992.2	1946.5
20°	2379.8	2384.9	2370.1	2342.4	2292.2	2260.7	2198.2	2139.0	2077.8	2010.2	1958.7
22.5°	2522.7	2516.3	2495.0	2449.3	2407.5	2342.4	2273.6	2198.2	2117.7	2039.2	1966.4
25°	2688.9	2661.8	2649.6	2597.4	2540.1	2454.5	2361.8	2256.2	2160.9	2059.8	1972.2
27.5°	2802.2	2791.2	2773.8	2731.4	2665.7	2568.4	2459.0	2332.8	2204.7	2081.0	1970.9
30°	2775.1	2776.4	2777.7	2766.1	2727.5	2658.6	2549.8	2411.3	2251.7	2108.1	1975.4
32.5°	2535.6	2564.6	2592.3	2628.3	2651.5	2652.2	2594.2	2472.5	2307.0	2139.0	1972.9
35°	2158.3	2165.4	2238.1	2310.3	2408.1	2484.1	2535.0	2479.6	2341.2	2153.8	1970.9
37.5°	1744.9	1780.3	1835.1	1916.2	2063.0	2182.8	2339.9	2394.0	2328.9	2166.0	1970.3
40°	1434.6	1466.8	1499.6	1582.7	1701.8	1855.0	2039.8	2197.6	2234.3	2139.0	1951.0
42.5°	1195.0	1218.9	1256.2	1313.5	1408.2	1539.5	1714.0	1932.3	2081.7	2060.4	1910.4
45°	1017.3	1033.4	1061.8	1111.3	1183.5	1289.7	1445.5	1670.9	1867.3	1932.3	1841.5
47.5°	891.1	891.8	915.0	950.4	1005.1	1103.0	1219.5	1405.0	1616.8	1766.8	1745.6
50°	789.4	786.2	803.6	833.2	874.4	934.3	1044.4	1185.4	1386.9	1562.7	1611.6
52.5°	701.8	703.1	712.1	732.1	764.9	813.9	889.2	1012.8	1177.7	1359.2	1462.3
55°	627.1	624.6	636.8	651.6	676.7	710.2	769.4	866.7	1006.4	1184.1	1303.9
57.5°	555.0	562.1	567.3	577.6	599.5	622.6	675.4	750.1	865.4	1023.1	1150.0
60°	493.2	500.3	504.2	514.5	531.2	550.5	589.2	647.1	740.5	871.8	997.4
62.5°	437.8	443.0	443.6	452.6	465.5	484.2	512.5	558.9	627.8	738.5	860.9
65°	385.0	385.0	387.6	397.3	403.7	420.5	443.6	479.0	538.3	627.8	732.7
67.5°	333.5	336.8	336.1	340.6	346.4	360.6	378.0	407.6	454.6	522.2	609.1
70°	283.3	285.9	285.2	288.5	294.9	303.3	316.8	344.5	376.0	432.0	504.2
72.5°	238.2	238.9	236.9	241.5	244.7	251.8	267.2	278.8	307.8	352.8	408.9
75°	189.3	190.6	191.9	194.5	198.3	202.2	209.9	224.7	244.0	279.4	317.4
77.5°	150.7	147.4	151.3	150.7	152.6	155.8	162.9	171.3	188.0	211.8	243.4
80°	106.9	107.5	107.5	108.2	111.4	113.3	119.1	124.9	137.1	153.9	174.5
82.5°	70.8	72.8	71.5	72.8	75.3	76.6	79.2	83.7	89.5	101.7	115.3
85°	42.5	39.3	40.6	41.9	41.9	42.5	45.1	47.0	50.9	56.0	61.8
87.5°	15.5	16.7	17.4	17.4	18.0	18.0	20.6	20.6	22.5	24.5	27.0
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: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0
2.5°	1571.7	1567.2	1562.1	1553.0	1542.1	1536.3	1527.3	1521.5	1509.9	1500.2	1489.9
5°	1640.0	1623.2	1607.8	1587.8	1565.9	1551.8	1535.0	1516.3	1497.0	1477.1	1455.2
7.5°	1708.2	1680.5	1650.3	1618.7	1587.8	1558.8	1531.8	1504.1	1479.0	1447.4	1421.0
10°	1777.1	1739.8	1699.9	1652.8	1607.1	1567.2	1526.6	1491.2	1455.2	1416.5	1382.4
12.5°	1846.0	1793.2	1732.7	1679.9	1622.6	1572.4	1522.8	1475.1	1427.5	1383.7	1342.5
15°	1871.1	1827.3	1775.2	1701.8	1640.0	1573.7	1510.5	1452.0	1397.2	1349.6	1299.4
17.5°	1895.6	1839.6	1784.2	1713.4	1632.9	1561.4	1489.9	1426.2	1365.7	1305.8	1260.1
20°	1901.4	1843.4	1784.8	1715.9	1632.9	1547.9	1476.4	1395.9	1329.6	1267.2	1207.9
22.5°	1899.5	1831.8	1766.8	1695.3	1614.9	1538.2	1448.1	1365.7	1292.3	1231.1	1168.6
25°	1885.3	1815.1	1735.3	1663.8	1584.0	1500.9	1413.3	1328.3	1254.9	1184.7	1123.6
27.5°	1876.9	1788.1	1700.5	1618.1	1541.5	1464.8	1379.8	1292.3	1211.8	1140.3	1083.7
30°	1858.2	1758.4	1656.7	1569.8	1490.6	1416.5	1337.3	1252.4	1167.4	1097.8	1036.0
32.5°	1841.5	1721.1	1612.3	1515.7	1430.7	1359.2	1287.8	1207.9	1124.9	1054.0	992.2
35°	1819.0	1684.4	1561.4	1454.5	1365.0	1291.0	1229.8	1154.5	1077.9	1009.6	950.4
37.5°	1792.6	1636.8	1506.7	1395.3	1298.1	1220.8	1162.9	1104.3	1027.6	960.7	907.9
40°	1760.4	1585.2	1445.5	1330.9	1229.2	1148.0	1095.2	1040.5	979.3	918.2	861.5
42.5°	1719.8	1538.9	1383.7	1258.1	1157.7	1079.1	1023.1	978.7	926.5	870.5	819.0
45°	1668.3	1480.9	1316.1	1183.5	1081.7	1003.8	946.5	911.7	871.2	817.1	772.7
47.5°	1600.0	1415.3	1245.3	1108.1	1003.2	931.1	876.3	842.2	812.6	770.1	728.2
50°	1502.8	1339.9	1167.4	1031.5	926.5	853.8	804.2	773.9	749.5	718.6	684.4
52.5°	1394.0	1245.3	1090.7	956.8	853.1	781.7	733.4	707.6	688.3	668.4	634.9
55°	1277.5	1148.7	1001.9	874.4	778.5	708.3	665.8	642.6	625.9	609.1	588.5
57.5°	1151.9	1047.6	913.0	793.9	705.1	639.4	599.5	575.6	562.1	553.1	540.2
60°	1018.0	931.7	819.7	713.4	627.1	570.5	531.8	514.5	503.5	496.4	487.4
62.5°	893.7	826.7	725.0	630.4	557.6	504.8	471.3	454.6	444.3	441.7	434.6
65°	772.0	717.3	631.6	551.2	486.8	441.1	412.1	396.0	389.5	385.7	386.3
67.5°	649.7	614.3	542.8	472.0	419.2	378.6	354.8	342.5	339.3	333.5	333.5
70°	539.6	514.5	456.5	396.6	350.9	321.3	300.7	287.8	284.6	282.0	281.4
72.5°	442.3	421.1	372.8	327.7	287.8	262.7	246.6	240.2	234.4	233.1	233.1
75°	347.1	334.8	294.9	256.9	228.6	210.5	199.0	191.9	188.0	187.4	188.0
77.5°	262.1	250.5	222.8	194.5	175.8	161.6	150.7	148.7	143.6	144.2	142.9
80°	185.4	178.4	162.3	141.0	126.2	114.6	109.5	105.0	103.7	101.7	103.7
82.5°	121.7	114.0	104.3	92.7	81.1	75.3	70.2	69.5	68.9	68.3	68.3
85°	66.3	67.0	60.5	50.2	45.1	41.2	38.0	38.0	37.3	36.7	37.3
87.5°	28.3	27.0	24.5	22.5	19.3	17.4	16.7	17.4	15.5	14.8	15.5
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: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0
2.5°	1484.2	1477.1	1471.3	1458.4	1451.3	1441.7	1433.9	1442.3	1433.3	1437.1	1431.4
5°	1444.2	1426.2	1413.3	1394.7	1378.6	1363.7	1352.8	1350.9	1345.7	1343.1	1335.4
7.5°	1396.6	1376.0	1354.7	1331.6	1312.2	1291.6	1279.4	1267.8	1260.7	1251.7	1244.6
10°	1355.4	1325.1	1299.4	1269.7	1244.0	1221.4	1203.4	1194.4	1186.0	1173.8	1169.3
12.5°	1304.5	1273.0	1240.1	1207.9	1183.5	1157.7	1142.9	1128.1	1122.9	1108.8	1108.1
15°	1265.9	1218.9	1188.0	1155.8	1121.6	1101.0	1088.2	1073.4	1066.9	1057.3	1050.2
17.5°	1218.2	1175.7	1137.1	1104.3	1073.4	1056.6	1039.9	1029.6	1018.6	1011.5	1000.0
20°	1165.4	1125.5	1086.9	1051.5	1028.9	1009.0	996.1	986.4	974.8	971.6	960.0
22.5°	1121.0	1075.9	1039.2	1010.9	985.8	962.6	948.4	942.6	935.6	924.0	924.0
25°	1072.1	1026.3	994.8	965.2	943.3	922.7	913.0	904.7	896.9	889.8	887.3
27.5°	1030.9	990.3	951.7	924.6	905.9	886.6	878.3	867.3	861.5	855.7	848.0
30°	987.1	945.2	912.4	886.6	866.0	849.3	840.3	833.2	828.0	822.9	819.0
32.5°	942.0	904.0	872.5	847.4	826.7	815.2	807.4	802.9	797.1	790.7	785.5
35°	903.4	860.9	830.0	808.1	792.0	782.3	773.3	768.8	762.4	762.4	757.2
37.5°	857.7	820.3	792.6	772.7	758.5	749.5	739.2	736.6	732.1	729.5	727.6
40°	817.7	783.6	757.9	737.9	722.4	715.4	707.6	702.5	699.9	696.7	695.4
42.5°	776.5	744.3	719.9	701.8	689.0	683.2	676.1	672.9	667.1	662.6	661.9
45°	734.7	703.1	680.6	665.8	654.2	647.1	642.6	634.9	632.3	627.1	626.5
47.5°	696.0	665.1	642.6	630.4	620.1	614.9	607.8	599.5	596.2	593.0	592.4
50°	651.6	623.9	603.3	591.7	582.1	573.7	566.6	561.5	559.5	559.5	560.8
52.5°	606.5	584.0	567.3	552.5	543.4	534.4	528.0	525.4	522.2	526.1	528.6
55°	562.8	538.9	526.1	512.5	503.5	493.2	490.0	488.7	486.8	491.9	494.5
57.5°	515.8	499.7	484.2	470.0	462.3	455.9	450.7	450.1	453.9	455.2	463.0
60°	471.3	452.0	438.5	428.2	418.5	414.7	413.4	412.1	414.7	421.7	432.7
62.5°	422.4	407.6	392.8	385.7	379.2	372.2	372.2	373.5	379.2	387.6	398.6
65°	374.7	361.2	351.6	342.5	336.8	332.9	334.2	336.8	342.5	353.5	365.7
67.5°	325.8	316.8	307.8	299.4	293.6	294.3	294.9	298.1	305.2	318.1	329.7
70°	278.8	268.5	261.4	258.2	253.7	251.1	255.0	261.4	267.2	278.8	288.5
72.5°	231.8	223.4	218.3	216.3	215.1	213.1	213.8	220.9	229.2	240.8	252.4
75°	185.4	182.2	178.4	175.8	173.8	175.1	176.4	182.9	189.3	201.5	214.4
77.5°	143.6	139.7	137.1	136.5	135.2	135.9	139.1	144.2	150.7	159.7	170.0
80°	102.4	101.1	99.8	99.2	99.2	99.8	105.0	108.2	114.0	122.3	130.1
82.5°	67.6	67.0	67.0	67.0	67.6	67.6	70.2	74.7	79.2	85.0	91.4
85°	39.3	38.0	39.9	40.6	39.3	41.2	42.5	45.1	47.0	50.2	53.4
87.5°	16.1	17.4	16.7	17.4	17.4	18.7	18.0	20.6	21.9	23.2	22.5
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: P242818

CATALOG NUMBER: S125DR-S1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1517.0	1517.0	1517.0	1517.0
2.5°	1427.5	1432.0	1428.1	1433.3
5°	1332.2	1326.4	1330.3	1327.7
7.5°	1244.0	1238.8	1231.1	1228.5
10°	1162.2	1155.1	1154.5	1150.0
12.5°	1102.3	1095.9	1086.9	1085.6
15°	1046.3	1041.2	1036.7	1040.5
17.5°	998.7	994.2	992.9	989.0
20°	954.2	951.0	952.3	943.9
22.5°	918.8	911.7	910.5	910.5
25°	881.5	878.3	875.0	878.3
27.5°	848.6	845.4	844.1	844.8
30°	819.0	812.6	813.2	812.6
32.5°	786.8	783.0	781.7	780.4
35°	755.3	755.3	752.1	752.1
37.5°	726.3	725.7	723.7	725.0
40°	692.8	692.2	690.2	686.4
42.5°	660.6	658.0	657.4	656.8
45°	626.5	626.5	625.2	624.6
47.5°	593.0	594.3	596.9	596.2
50°	563.4	564.0	566.0	566.6
52.5°	530.6	535.1	537.6	537.0
55°	500.3	504.8	509.3	510.0
57.5°	470.0	475.8	480.3	481.6
60°	439.1	447.5	453.3	455.9
62.5°	409.5	419.2	425.0	425.0
65°	376.7	386.3	391.5	395.3
67.5°	342.5	352.2	357.4	360.6
70°	304.6	314.2	321.9	324.5
72.5°	267.2	275.6	281.4	284.6
75°	222.8	234.4	240.2	243.4
77.5°	180.3	191.9	195.1	197.0
80°	137.8	144.2	148.7	149.4
82.5°	97.9	103.0	103.7	105.6
85°	57.9	60.5	61.2	60.5
87.5°	23.8	23.2	23.2	24.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)