

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: P242808

Luminaire Tested: **S125DR-S1090D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242808
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-S1090D830-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3995.5 lumens
Efficiency: N/A
Efficacy: 114.8 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

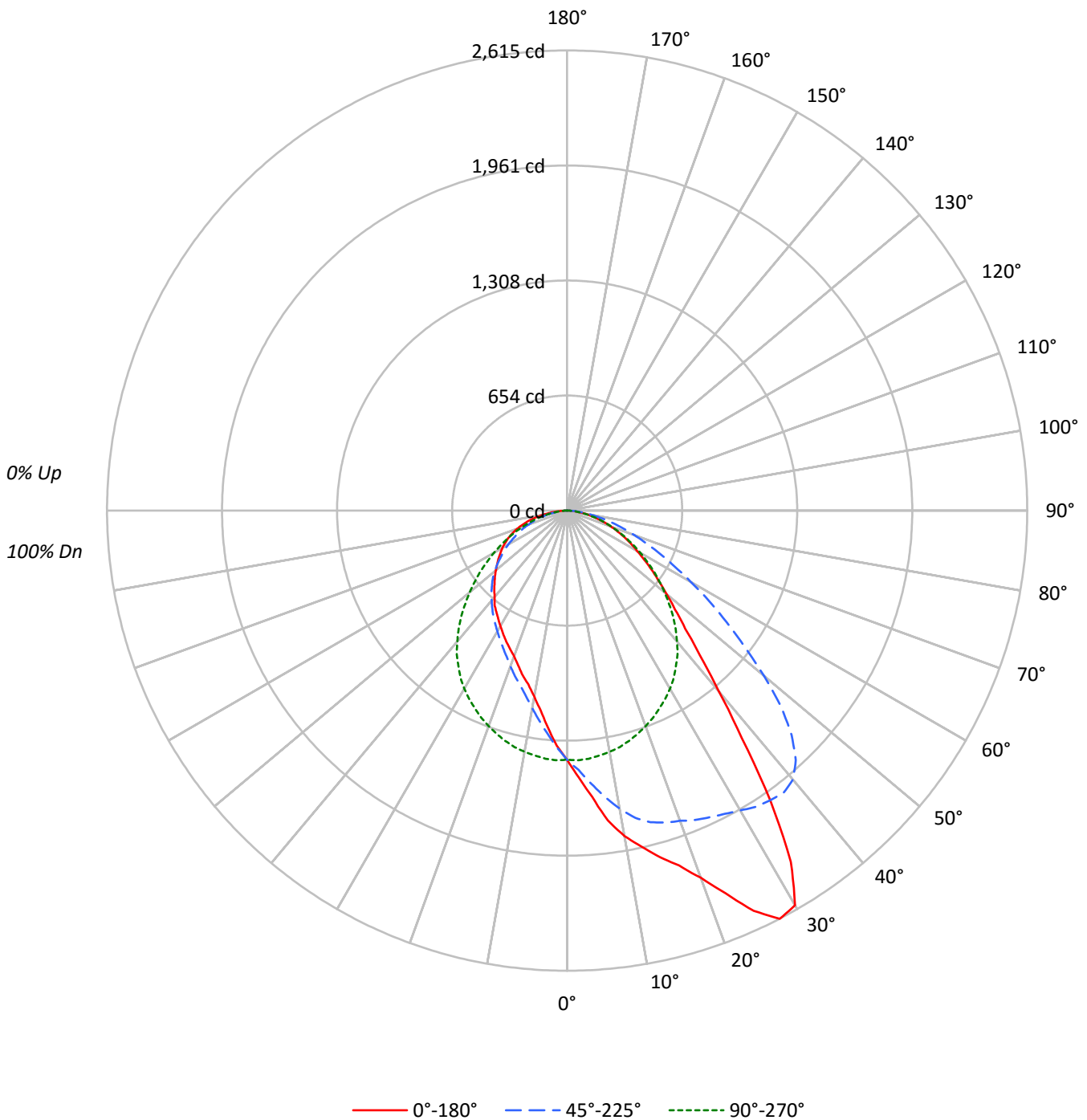
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	10063	10063	10063
5°	11653	10097	8841
10°	13558	10045	7746
15°	15008	9972	7145
20°	16799	9854	6663
25°	19680	9723	6428
30°	21257	9593	6224
35°	17478	9349	6090
40°	12422	9010	5943
45°	9544	8554	5859
50°	8147	7988	5847
55°	7253	7432	5898
60°	6543	6826	6048
65°	6044	6216	6206
70°	5494	5582	6294
75°	4852	4918	6239
80°	4085	4011	5706
85°	3237	2895	4607



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.3	3.4
10°-20°	405.9	10.2
20°-30°	659.3	16.5
30°-40°	805.7	20.2
40°-50°	731.0	18.3
50°-60°	582.2	14.6
60°-70°	405.5	10.1
70°-80°	216.0	5.4
80°-90°	53.6	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°	1201.5	30.1
0°-40°	2007.2	50.2
0°-60°	3320.4	83.1
0°-90°	3995.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3995.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1416	1416	1416	1416	1416	
5°	1633	1556	1415	1273	1239	164
15°	2040	1834	1355	1028	971	583
25°	2510	1922	1240	861	820	1150
35°	2014	2010	1078	730	702	1236
45°	950	1804	851	604	583	756
55°	585	1105	600	460	476	526
65°	359	586	370	311	369	357
75°	177	261	179	164	227	190
85°	40	52	36	38	56	46
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°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9
2.5°	1518.0	1515.6	1513.2	1508.4	1512.0	1501.8	1497.0	1488.6	1478.4	1474.8	1470.5
5°	1633.4	1636.4	1639.4	1626.8	1628.0	1619.6	1600.4	1584.7	1572.1	1555.9	1544.5
7.5°	1776.4	1767.4	1768.0	1760.2	1746.4	1735.0	1716.3	1690.5	1667.1	1640.6	1617.8
10°	1878.6	1879.2	1873.8	1864.2	1849.1	1838.3	1811.9	1786.7	1756.0	1719.9	1694.1
12.5°	1955.5	1958.5	1951.3	1937.5	1932.1	1904.4	1885.2	1854.0	1816.1	1789.1	1746.4
15°	2039.7	2033.0	2028.2	2012.0	1999.4	1974.1	1941.1	1909.8	1870.2	1833.5	1796.9
17.5°	2114.2	2119.6	2111.8	2099.7	2062.5	2033.0	1992.2	1952.5	1905.0	1859.4	1816.7
20°	2221.1	2226.0	2212.1	2186.3	2139.4	2110.0	2051.7	1996.4	1939.3	1876.2	1828.1
22.5°	2354.6	2348.5	2328.7	2286.0	2247.0	2186.3	2122.0	2051.7	1976.6	1903.2	1835.3
25°	2509.6	2484.4	2472.9	2424.3	2370.8	2290.9	2204.3	2105.8	2016.8	1922.5	1840.7
27.5°	2615.4	2605.2	2588.9	2549.3	2488.0	2397.2	2295.1	2177.3	2057.7	1942.3	1839.5
30°	2590.1	2591.3	2592.5	2581.7	2545.7	2481.4	2379.8	2250.6	2101.6	1967.5	1843.7
32.5°	2366.6	2393.6	2419.5	2453.1	2474.7	2475.3	2421.3	2307.7	2153.2	1996.4	1841.3
35°	2014.4	2021.0	2088.9	2156.2	2247.6	2318.5	2366.0	2314.3	2185.1	2010.2	1839.5
37.5°	1628.6	1661.7	1712.7	1788.5	1925.5	2037.3	2183.9	2234.4	2173.7	2021.6	1838.9
40°	1338.9	1369.0	1399.6	1477.2	1588.3	1731.4	1903.8	2051.1	2085.3	1996.4	1820.9
42.5°	1115.4	1137.6	1172.5	1226.0	1314.3	1436.9	1599.8	1803.5	1942.9	1923.1	1783.0
45°	949.5	964.5	991.0	1037.3	1104.6	1203.7	1349.2	1559.5	1742.8	1803.5	1718.7
47.5°	831.7	832.3	854.0	887.0	938.1	1029.4	1138.2	1311.3	1509.0	1649.0	1629.2
50°	736.8	733.8	750.0	777.6	816.1	872.0	974.8	1106.4	1294.5	1458.5	1504.2
52.5°	655.0	656.2	664.7	683.3	713.9	759.6	829.9	945.3	1099.2	1268.6	1364.8
55°	585.3	582.9	594.3	608.2	631.6	662.9	718.1	808.9	939.3	1105.2	1216.9
57.5°	518.0	524.6	529.4	539.1	559.5	581.1	630.4	700.1	807.7	954.9	1073.3
60°	460.3	466.9	470.6	480.2	495.8	513.8	549.9	604.0	691.1	813.7	930.9
62.5°	408.7	413.5	414.1	422.5	434.5	451.9	478.4	521.6	585.9	689.3	803.5
65°	359.4	359.4	361.8	370.8	376.8	392.4	414.1	447.1	502.4	585.9	683.9
67.5°	311.3	314.3	313.7	317.9	323.3	336.5	352.8	380.4	424.3	487.4	568.5
70°	264.4	266.8	266.2	269.2	275.2	283.1	295.7	321.5	351.0	403.2	470.6
72.5°	222.4	223.0	221.2	225.4	228.4	235.0	249.4	260.2	287.3	329.3	381.6
75°	176.7	177.9	179.1	181.5	185.1	188.7	195.9	209.7	227.8	260.8	296.3
77.5°	140.6	137.6	141.2	140.6	142.4	145.4	152.0	159.9	175.5	197.7	227.2
80°	99.8	100.4	100.4	101.0	104.0	105.8	111.2	116.6	128.0	143.6	162.9
82.5°	66.1	67.9	66.7	67.9	70.3	71.5	73.9	78.1	83.5	95.0	107.6
85°	39.7	36.7	37.9	39.1	39.1	39.7	42.1	43.9	47.5	52.3	57.7
87.5°	14.4	15.6	16.2	16.2	16.8	16.8	19.2	19.2	21.0	22.8	25.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9
2.5°	1466.9	1462.7	1457.9	1449.5	1439.3	1433.9	1425.5	1420.1	1409.2	1400.2	1390.6
5°	1530.6	1515.0	1500.6	1482.0	1461.5	1448.3	1432.7	1415.3	1397.2	1378.6	1358.2
7.5°	1594.3	1568.5	1540.3	1510.8	1482.0	1454.9	1429.7	1403.8	1380.4	1351.0	1326.3
10°	1658.6	1623.8	1586.5	1542.7	1500.0	1462.7	1424.9	1391.8	1358.2	1322.1	1290.3
12.5°	1722.9	1673.7	1617.2	1567.9	1514.4	1467.5	1421.3	1376.8	1332.3	1291.5	1253.0
15°	1746.4	1705.5	1656.8	1588.3	1530.6	1468.7	1409.8	1355.2	1304.1	1259.6	1212.7
17.5°	1769.2	1716.9	1665.3	1599.2	1524.0	1457.3	1390.6	1331.1	1274.6	1218.7	1176.1
20°	1774.6	1720.5	1665.9	1601.6	1524.0	1444.7	1378.0	1302.9	1241.0	1182.7	1127.4
22.5°	1772.8	1709.7	1649.0	1582.3	1507.2	1435.7	1351.6	1274.6	1206.1	1149.0	1090.7
25°	1759.6	1694.1	1619.6	1552.9	1478.4	1400.8	1319.1	1239.8	1171.3	1105.8	1048.7
27.5°	1751.8	1668.9	1587.1	1510.2	1438.7	1367.2	1287.9	1206.1	1131.0	1064.3	1011.4
30°	1734.4	1641.2	1546.3	1465.1	1391.2	1322.1	1248.2	1168.9	1089.5	1024.6	966.9
32.5°	1718.7	1606.4	1504.8	1414.7	1335.3	1268.6	1201.9	1127.4	1049.9	983.8	926.1
35°	1697.7	1572.1	1457.3	1357.6	1274.0	1204.9	1147.8	1077.5	1006.0	942.3	887.0
37.5°	1673.1	1527.6	1406.2	1302.3	1211.5	1139.4	1085.3	1030.6	959.1	896.6	847.4
40°	1643.0	1479.6	1349.2	1242.2	1147.2	1071.5	1022.2	971.1	914.1	857.0	804.1
42.5°	1605.2	1436.3	1291.5	1174.3	1080.5	1007.2	954.9	913.5	864.8	812.5	764.4
45°	1557.1	1382.2	1228.4	1104.6	1009.6	936.9	883.4	851.0	813.1	762.6	721.2
47.5°	1493.4	1320.9	1162.3	1034.2	936.3	869.0	817.9	786.1	758.4	718.7	679.7
50°	1402.6	1250.6	1089.5	962.7	864.8	796.9	750.6	722.4	699.5	670.7	638.8
52.5°	1301.1	1162.3	1018.0	893.0	796.3	729.6	684.5	660.5	642.4	623.8	592.5
55°	1192.3	1072.1	935.1	816.1	726.6	661.1	621.4	599.8	584.1	568.5	549.3
57.5°	1075.1	977.8	852.2	741.0	658.0	596.8	559.5	537.3	524.6	516.2	504.2
60°	950.1	869.6	765.0	665.9	585.3	532.4	496.4	480.2	469.9	463.3	454.9
62.5°	834.1	771.6	676.7	588.3	520.4	471.2	439.9	424.3	414.7	412.3	405.6
65°	720.5	669.5	589.5	514.4	454.3	411.7	384.6	369.6	363.6	360.0	360.6
67.5°	606.4	573.3	506.6	440.5	391.2	353.4	331.1	319.7	316.7	311.3	311.3
70°	503.6	480.2	426.1	370.2	327.5	299.9	280.6	268.6	265.6	263.2	262.6
72.5°	412.9	393.0	348.0	305.9	268.6	245.2	230.2	224.2	218.7	217.5	217.5
75°	323.9	312.5	275.2	239.8	213.3	196.5	185.7	179.1	175.5	174.9	175.5
77.5°	244.6	233.8	207.9	181.5	164.1	150.8	140.6	138.8	134.0	134.6	133.4
80°	173.1	166.5	151.4	131.6	117.8	107.0	102.2	98.0	96.8	95.0	96.8
82.5°	113.6	106.4	97.4	86.5	75.7	70.3	65.5	64.9	64.3	63.7	63.7
85°	61.9	62.5	56.5	46.9	42.1	38.5	35.5	35.5	34.9	34.3	34.9
87.5°	26.4	25.2	22.8	21.0	18.0	16.2	15.6	16.2	14.4	13.8	14.4
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°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9
2.5°	1385.2	1378.6	1373.2	1361.2	1354.6	1345.5	1338.3	1346.1	1337.7	1341.3	1335.9
5°	1348.0	1331.1	1319.1	1301.7	1286.7	1272.8	1262.6	1260.8	1256.0	1253.6	1246.4
7.5°	1303.5	1284.2	1264.4	1242.8	1224.8	1205.5	1194.1	1183.3	1176.7	1168.3	1161.7
10°	1265.0	1236.8	1212.7	1185.1	1161.1	1140.0	1123.2	1114.8	1107.0	1095.5	1091.3
12.5°	1217.5	1188.1	1157.4	1127.4	1104.6	1080.5	1066.7	1052.9	1048.1	1034.9	1034.2
15°	1181.5	1137.6	1108.8	1078.7	1046.9	1027.6	1015.6	1001.8	995.8	986.8	980.2
17.5°	1137.0	1097.4	1061.3	1030.6	1001.8	986.2	970.5	960.9	950.7	944.1	933.3
20°	1087.7	1050.5	1014.4	981.4	960.3	941.7	929.7	920.7	909.9	906.8	896.0
22.5°	1046.3	1004.2	969.9	943.5	920.1	898.4	885.2	879.8	873.2	862.4	862.4
25°	1000.6	957.9	928.5	900.8	880.4	861.2	852.2	844.3	837.1	830.5	828.1
27.5°	962.1	924.3	888.2	863.0	845.5	827.5	819.7	809.5	804.1	798.7	791.5
30°	921.3	882.2	851.6	827.5	808.3	792.7	784.3	777.6	772.8	768.0	764.4
32.5°	879.2	843.7	814.3	790.9	771.6	760.8	753.6	749.4	744.0	738.0	733.2
35°	843.1	803.5	774.6	754.2	739.2	730.2	721.8	717.5	711.5	711.5	706.7
37.5°	800.5	765.6	739.8	721.2	707.9	699.5	689.9	687.5	683.3	680.9	679.1
40°	763.2	731.4	707.3	688.7	674.3	667.7	660.5	655.6	653.2	650.2	649.0
42.5°	724.8	694.7	671.9	655.0	643.0	637.6	631.0	628.0	622.6	618.4	617.8
45°	685.7	656.2	635.2	621.4	610.6	604.0	599.8	592.5	590.1	585.3	584.7
47.5°	649.6	620.8	599.8	588.3	578.7	573.9	567.3	559.5	556.5	553.5	552.9
50°	608.2	582.3	563.1	552.3	543.3	535.5	528.8	524.0	522.2	522.2	523.4
52.5°	566.1	545.1	529.4	515.6	507.2	498.8	492.8	490.4	487.4	491.0	493.4
55°	525.2	503.0	491.0	478.4	469.9	460.3	457.3	456.1	454.3	459.1	461.5
57.5°	481.4	466.3	451.9	438.7	431.5	425.5	420.7	420.1	423.7	424.9	432.1
60°	439.9	421.9	409.3	399.6	390.6	387.0	385.8	384.6	387.0	393.6	403.8
62.5°	394.2	380.4	366.6	360.0	354.0	347.4	347.4	348.6	354.0	361.8	372.0
65°	349.8	337.1	328.1	319.7	314.3	310.7	311.9	314.3	319.7	329.9	341.3
67.5°	304.1	295.7	287.3	279.4	274.0	274.6	275.2	278.2	284.9	296.9	307.7
70°	260.2	250.6	244.0	241.0	236.8	234.4	238.0	244.0	249.4	260.2	269.2
72.5°	216.3	208.5	203.7	201.9	200.7	198.9	199.5	206.1	213.9	224.8	235.6
75°	173.1	170.1	166.5	164.1	162.3	163.5	164.7	170.7	176.7	188.1	200.1
77.5°	134.0	130.4	128.0	127.4	126.2	126.8	129.8	134.6	140.6	149.0	158.7
80°	95.6	94.4	93.1	92.5	92.5	93.1	98.0	101.0	106.4	114.2	121.4
82.5°	63.1	62.5	62.5	62.5	63.1	63.1	65.5	69.7	73.9	79.3	85.3
85°	36.7	35.5	37.3	37.9	36.7	38.5	39.7	42.1	43.9	46.9	49.9
87.5°	15.0	16.2	15.6	16.2	16.2	17.4	16.8	19.2	20.4	21.6	21.0
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: P242808

CATALOG NUMBER: S125DR-S1090D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1415.9	1415.9	1415.9	1415.9
2.5°	1332.3	1336.5	1332.9	1337.7
5°	1243.4	1238.0	1241.6	1239.2
7.5°	1161.1	1156.2	1149.0	1146.6
10°	1084.7	1078.1	1077.5	1073.3
12.5°	1028.8	1022.8	1014.4	1013.2
15°	976.6	971.8	967.5	971.1
17.5°	932.1	927.9	926.7	923.1
20°	890.6	887.6	888.8	881.0
22.5°	857.6	851.0	849.8	849.8
25°	822.7	819.7	816.7	819.7
27.5°	792.1	789.1	787.9	788.5
30°	764.4	758.4	759.0	758.4
32.5°	734.4	730.8	729.6	728.4
35°	704.9	704.9	701.9	701.9
37.5°	677.9	677.3	675.5	676.7
40°	646.6	646.0	644.2	640.6
42.5°	616.6	614.2	613.6	613.0
45°	584.7	584.7	583.5	582.9
47.5°	553.5	554.7	557.1	556.5
50°	525.8	526.4	528.2	528.8
52.5°	495.2	499.4	501.8	501.2
55°	466.9	471.2	475.4	476.0
57.5°	438.7	444.1	448.3	449.5
60°	409.9	417.7	423.1	425.5
62.5°	382.2	391.2	396.6	396.6
65°	351.6	360.6	365.4	369.0
67.5°	319.7	328.7	333.5	336.5
70°	284.3	293.3	300.5	302.9
72.5°	249.4	257.2	262.6	265.6
75°	207.9	218.7	224.2	227.2
77.5°	168.3	179.1	182.1	183.9
80°	128.6	134.6	138.8	139.4
82.5°	91.3	96.2	96.8	98.6
85°	54.1	56.5	57.1	56.5
87.5°	22.2	21.6	21.6	22.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)