

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: P243771

Luminaire Tested: **S125RDR-H1090D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243771
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-71)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S125RDR-H1090D830-X4F0-XX-UDD-A-W
Description: DEFINE 5 REGRESSED 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: 3808.6 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.42 / 1.22 / 1.5
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

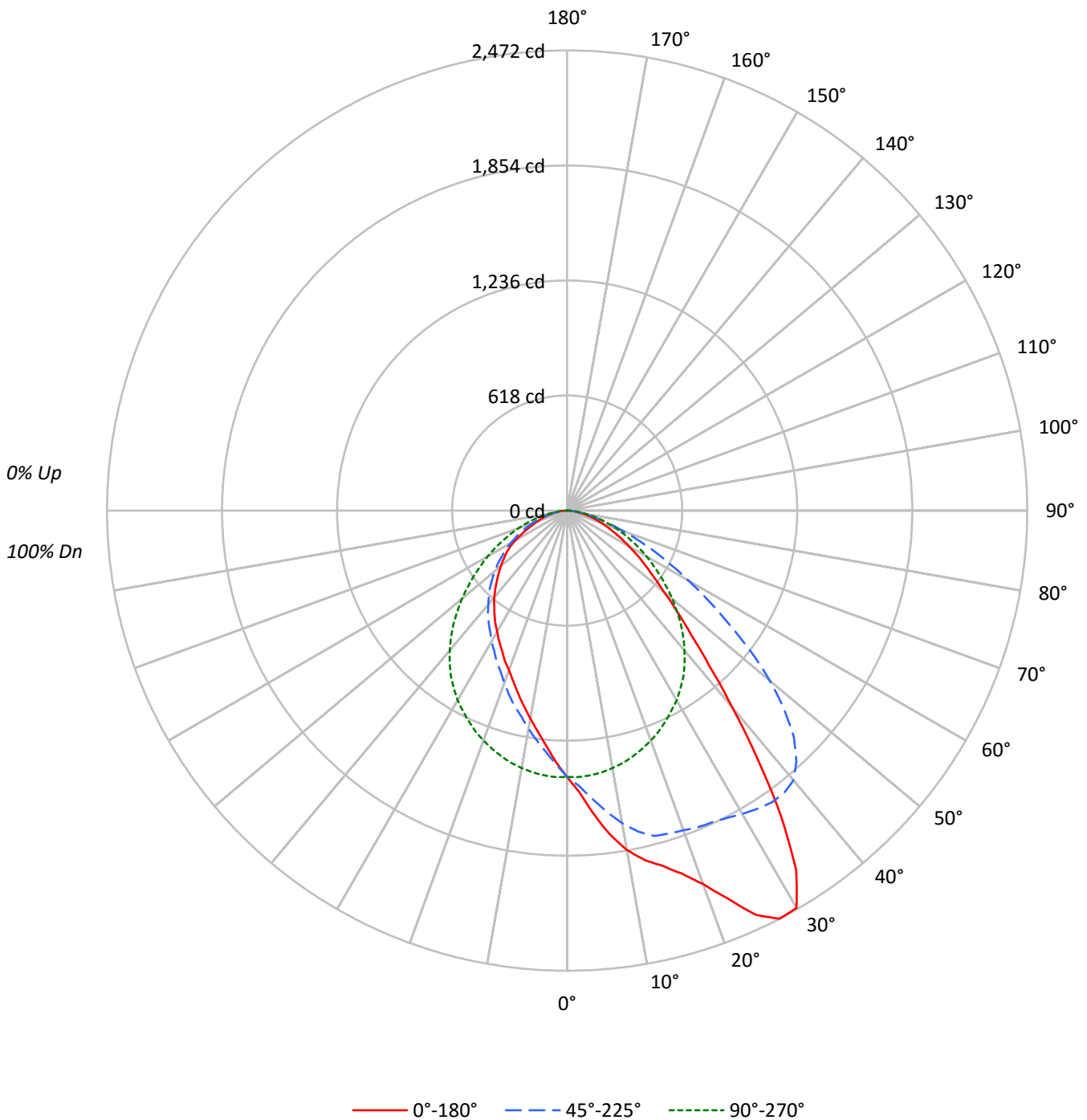
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75					73				
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65					63				
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	66	61	56					54				
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50					48				
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44					42				
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39					37				
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35					33				
9	59	46	38	32	57	45	38	32	44	37	32	43	37	32	42	36	32					30				
10	55	42	35	29	54	42	34	29	41	34	29	40	34	29	39	33	29					27				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10171	10171	10171
5°	11676	10186	9060
10°	13359	10136	8191
15°	14530	10054	7491
20°	16146	9940	6901
25°	18787	9799	6497
30°	20229	9654	6166
35°	17380	9438	5898
40°	12804	9097	5654
45°	9456	8675	5361
50°	7491	8157	5145
55°	6328	7559	4950
60°	5453	7001	4581
65°	4732	6374	3989
70°	4150	5837	3491
75°	3520	5110	3304
80°	2742	4273	2742
85°	2406	3425	2495



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.7	3.6
10°-20°	407.5	10.7
20°-30°	650.0	17.1
30°-40°	789.2	20.7
40°-50°	711.2	18.7
50°-60°	546.9	14.4
60°-70°	354.9	9.3
70°-80°	170.8	4.5
80°-90°	40.4	1.1
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°	1195.3	31.4
0°-40°	1984.5	52.1
0°-60°	3242.6	85.1
0°-90°	3808.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3808.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1431	1431	1431	1431	1431	
5°	1636	1555	1428	1302	1270	163
15°	1975	1810	1366	1088	1018	566
25°	2396	1846	1250	895	828	1095
35°	2003	1914	1088	734	680	1225
45°	941	1722	863	586	533	747
55°	511	1058	610	427	400	463
65°	281	514	379	271	237	282
75°	128	174	186	133	120	138
85°	30	31	42	34	31	34
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°	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1
2.5°	1513.9	1519.6	1515.1	1517.9	1513.4	1511.1	1505.4	1496.9	1488.4	1480.4	1479.9
5°	1636.5	1635.4	1630.8	1624.6	1620.0	1608.7	1603.0	1583.7	1570.7	1554.8	1546.8
7.5°	1753.4	1750.5	1743.7	1735.2	1731.2	1716.5	1700.6	1676.2	1655.8	1630.8	1612.1
10°	1851.0	1850.4	1845.3	1839.6	1824.3	1807.9	1792.5	1767.0	1736.4	1705.1	1679.0
12.5°	1922.5	1919.6	1913.4	1903.7	1891.3	1879.9	1859.5	1836.2	1798.8	1767.0	1731.2
15°	1974.7	1973.5	1964.5	1961.1	1936.7	1920.8	1893.5	1870.3	1841.3	1809.6	1771.0
17.5°	2043.9	2046.2	2038.2	2018.9	1996.8	1972.4	1933.8	1895.8	1855.5	1818.6	1787.4
20°	2134.7	2129.0	2115.4	2092.1	2052.4	2022.3	1983.8	1936.7	1882.2	1827.7	1782.9
22.5°	2256.1	2249.9	2228.3	2200.0	2150.0	2095.0	2036.0	1965.6	1903.2	1840.8	1781.8
25°	2395.7	2383.8	2352.0	2321.4	2250.5	2192.0	2104.1	2020.1	1929.3	1846.4	1780.0
27.5°	2471.8	2471.8	2457.0	2423.5	2367.3	2281.1	2191.4	2079.7	1974.7	1861.2	1767.0
30°	2464.9	2461.0	2466.6	2452.5	2416.1	2351.5	2262.4	2144.9	2011.0	1881.1	1768.1
32.5°	2289.0	2290.7	2324.8	2348.1	2366.2	2350.3	2292.4	2186.3	2053.0	1900.3	1763.6
35°	2003.1	2007.6	2067.7	2107.5	2188.6	2235.1	2248.8	2191.4	2071.7	1914.0	1755.6
37.5°	1676.2	1676.2	1746.0	1806.1	1896.9	2011.6	2097.2	2118.8	2060.4	1913.4	1748.8
40°	1380.0	1378.3	1433.3	1507.1	1604.1	1730.7	1858.4	1967.9	1982.1	1891.3	1725.0
42.5°	1129.2	1126.4	1186.5	1227.4	1329.5	1442.4	1612.1	1767.0	1855.5	1822.6	1689.8
45°	940.8	938.5	977.7	1024.2	1096.3	1213.7	1356.2	1528.1	1676.8	1722.2	1624.0
47.5°	799.0	800.1	821.1	860.2	921.5	1005.5	1133.2	1292.6	1476.5	1581.4	1541.2
50°	677.5	681.5	697.4	726.9	771.7	839.2	948.8	1092.9	1281.8	1420.9	1429.4
52.5°	586.7	592.4	609.4	625.3	662.8	710.4	795.5	920.4	1076.4	1243.3	1302.8
55°	510.7	513.5	523.2	540.2	568.0	607.7	669.6	764.9	909.6	1058.3	1163.2
57.5°	447.1	447.1	453.4	465.3	487.4	523.2	564.6	643.5	765.5	900.0	1011.7
60°	383.6	385.9	390.4	403.4	418.2	445.4	485.7	535.7	641.2	753.6	873.9
62.5°	330.2	334.2	338.8	345.0	358.6	377.9	406.3	452.2	523.2	627.0	734.3
65°	281.4	285.4	286.0	293.4	302.4	318.3	339.9	373.4	432.4	514.1	602.6
67.5°	238.3	240.0	241.7	247.4	255.9	266.1	280.3	305.3	351.8	406.9	493.1
70°	199.7	200.9	201.4	207.7	211.7	220.7	228.1	244.0	273.5	316.1	383.0
72.5°	163.4	161.7	161.2	166.3	168.0	175.3	184.4	195.8	211.7	241.7	291.7
75°	128.2	128.8	129.4	132.2	132.8	136.2	141.9	149.2	156.6	174.2	206.0
77.5°	98.7	96.5	96.5	99.9	101.0	101.6	105.5	109.5	113.5	123.7	136.2
80°	67.0	68.1	68.1	68.1	68.7	69.8	72.1	75.5	78.3	84.5	86.8
82.5°	47.7	47.7	47.1	48.2	48.8	49.4	49.4	49.4	51.1	52.8	55.0
85°	29.5	30.1	28.4	29.5	30.1	30.1	30.1	30.1	31.8	31.2	31.8
87.5°	12.5	13.1	13.1	13.6	13.6	14.2	13.6	14.2	13.6	13.6	14.2
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°	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1
2.5°	1478.2	1471.4	1468.0	1461.1	1452.1	1446.4	1440.7	1432.8	1426.5	1416.9	1408.4
5°	1532.6	1519.0	1506.5	1489.5	1473.1	1458.9	1444.1	1427.7	1412.9	1396.5	1378.9
7.5°	1593.4	1571.8	1545.7	1515.6	1490.1	1468.0	1443.0	1418.6	1396.5	1370.4	1346.5
10°	1651.8	1617.2	1582.6	1542.3	1504.8	1471.9	1438.5	1404.4	1375.5	1343.1	1313.6
12.5°	1697.2	1664.3	1612.7	1562.7	1513.9	1471.4	1429.4	1387.9	1349.9	1314.2	1279.0
15°	1736.9	1682.4	1638.8	1584.3	1524.7	1466.8	1414.6	1366.4	1320.4	1278.4	1242.7
17.5°	1748.3	1699.5	1651.8	1588.3	1524.1	1458.3	1398.2	1340.9	1289.8	1243.3	1203.0
20°	1747.1	1697.8	1646.1	1585.4	1517.3	1445.3	1378.3	1314.2	1256.3	1203.0	1159.8
22.5°	1730.1	1682.4	1630.2	1569.0	1499.7	1425.4	1355.0	1284.1	1221.1	1165.5	1121.3
25°	1712.0	1651.8	1597.3	1535.5	1469.7	1401.0	1326.1	1249.5	1183.7	1125.8	1075.9
27.5°	1696.1	1624.0	1557.0	1496.3	1428.8	1367.0	1292.6	1212.6	1145.1	1084.4	1032.7
30°	1670.5	1594.5	1513.4	1447.0	1381.7	1317.0	1248.9	1176.3	1102.5	1040.7	989.0
32.5°	1648.4	1552.5	1464.6	1389.7	1324.4	1267.7	1202.4	1132.6	1060.5	1001.5	945.9
35°	1624.0	1509.4	1417.5	1329.5	1264.2	1202.4	1150.8	1087.8	1016.3	953.9	903.9
37.5°	1595.1	1465.1	1359.6	1269.9	1202.4	1138.8	1092.3	1036.1	971.5	909.6	860.2
40°	1562.7	1419.7	1298.3	1205.8	1133.2	1069.6	1030.5	980.5	925.5	864.2	818.2
42.5°	1521.9	1371.5	1242.7	1141.7	1061.1	1003.8	964.6	923.2	872.7	819.4	769.4
45°	1470.2	1311.3	1176.3	1069.6	990.2	934.6	893.7	863.1	822.8	772.8	725.8
47.5°	1407.2	1248.4	1108.2	997.6	920.9	867.6	829.6	799.0	768.3	725.2	680.4
50°	1323.8	1176.3	1041.8	928.9	847.7	796.1	762.1	737.7	709.9	674.7	633.8
52.5°	1231.9	1095.2	963.5	858.0	779.7	728.0	692.8	672.4	651.4	622.5	587.3
55°	1125.2	1014.0	888.6	785.3	708.7	657.7	629.9	610.0	592.4	570.3	540.8
57.5°	1012.3	914.7	805.8	710.4	638.4	590.1	565.7	549.3	534.5	518.6	494.2
60°	893.7	824.5	721.2	633.8	570.8	531.1	507.9	492.5	478.9	465.9	447.7
62.5°	770.0	712.7	635.5	561.2	505.0	467.6	450.5	437.5	423.3	412.0	398.9
65°	644.6	611.7	558.4	488.6	436.9	406.3	389.8	379.0	372.2	359.2	349.0
67.5°	530.6	512.4	467.0	419.9	380.2	352.4	337.1	329.1	321.7	315.5	304.1
70°	422.2	409.1	383.0	349.5	318.3	294.5	283.2	280.9	270.7	264.4	258.8
72.5°	321.7	318.3	296.8	282.0	264.4	245.7	237.2	232.6	225.8	220.2	217.9
75°	228.7	233.8	227.0	219.6	211.1	195.8	188.4	186.1	179.9	178.2	175.3
77.5°	156.0	163.4	165.7	162.3	158.3	153.2	148.1	145.8	139.6	138.5	136.8
80°	98.2	108.9	112.9	112.4	110.7	111.2	105.0	104.4	101.6	99.9	101.6
82.5°	59.6	65.3	72.6	74.3	72.1	73.2	71.5	69.2	69.2	70.4	68.1
85°	32.3	32.9	36.3	38.6	41.4	43.7	41.4	42.0	41.4	41.4	39.7
87.5°	14.2	14.8	14.8	14.2	15.3	16.5	18.7	19.9	19.3	17.6	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



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1	1431.1
2.5°	1401.6	1397.6	1390.8	1385.1	1372.1	1363.0	1361.8	1362.4	1361.3	1360.1	1359.6
5°	1367.5	1354.5	1342.0	1331.2	1316.5	1301.7	1294.9	1292.1	1290.9	1284.7	1288.1
7.5°	1331.2	1311.3	1296.6	1276.2	1258.6	1246.1	1234.2	1228.5	1227.4	1218.9	1216.6
10°	1292.6	1268.8	1246.7	1226.2	1208.6	1191.0	1176.9	1171.8	1164.9	1158.1	1147.9
12.5°	1254.6	1225.1	1200.7	1178.0	1154.2	1134.3	1123.0	1115.6	1107.1	1100.8	1097.4
15°	1209.2	1184.2	1154.2	1129.8	1105.4	1087.8	1072.5	1058.8	1050.9	1045.8	1031.6
17.5°	1168.4	1135.4	1107.1	1083.8	1057.1	1037.3	1021.4	1010.0	996.4	986.2	977.1
20°	1124.7	1090.6	1064.5	1036.7	1009.5	985.1	965.2	956.1	946.5	936.8	931.7
22.5°	1077.6	1048.1	1018.5	989.6	960.7	934.6	922.1	909.0	900.5	890.9	884.1
25°	1036.7	1004.4	974.9	942.5	910.7	895.4	878.4	865.3	858.5	848.9	841.5
27.5°	993.0	961.8	926.6	893.1	874.4	848.3	837.0	826.8	817.7	808.0	802.9
30°	952.2	915.8	880.7	854.6	830.2	811.4	800.7	788.2	775.7	771.1	764.3
32.5°	909.0	869.9	839.2	813.1	792.7	770.0	759.8	749.6	737.7	732.0	725.8
35°	864.2	826.2	796.1	772.3	751.3	734.3	722.9	712.1	704.8	696.2	691.7
37.5°	817.1	784.2	755.3	731.4	712.1	698.5	684.3	675.8	665.6	657.7	654.3
40°	772.3	742.8	715.0	692.8	675.2	658.8	646.3	635.5	629.3	622.5	616.8
42.5°	732.0	701.4	677.5	654.3	638.4	622.5	610.0	602.0	591.3	588.4	580.5
45°	688.9	660.5	636.7	615.1	598.6	585.6	570.8	561.2	554.4	547.6	544.7
47.5°	645.2	619.1	596.9	577.1	560.1	545.3	534.0	523.7	516.4	510.1	506.7
50°	602.6	579.9	557.8	538.5	520.9	510.1	496.5	485.2	479.5	472.7	468.7
52.5°	557.8	539.1	515.2	498.8	482.3	468.1	454.5	447.1	441.5	435.8	433.0
55°	515.8	495.9	475.5	457.9	442.0	427.3	416.5	410.8	403.4	400.0	399.5
57.5°	472.7	452.2	435.2	419.3	401.2	389.8	380.2	373.4	367.1	364.3	364.3
60°	425.6	409.1	393.2	375.6	362.6	349.5	339.3	334.8	328.5	327.4	323.4
62.5°	382.5	367.1	351.8	335.4	323.4	310.4	303.0	296.8	293.4	288.8	284.3
65°	337.6	324.0	309.3	295.1	285.4	271.2	264.4	257.0	253.1	248.0	242.3
67.5°	294.5	281.4	267.8	254.8	246.8	233.2	228.7	219.6	216.8	211.1	206.0
70°	249.1	240.0	229.2	216.2	209.4	198.6	194.1	185.6	181.0	177.6	174.8
72.5°	210.0	201.4	189.0	180.4	171.9	165.1	157.7	153.8	149.8	147.0	146.4
75°	171.4	160.6	153.2	145.3	139.6	132.8	129.4	126.5	124.8	123.1	121.4
77.5°	131.1	126.5	119.2	111.2	106.7	103.8	101.6	100.4	98.7	98.2	96.5
80°	97.6	91.4	86.8	84.0	80.6	78.3	76.6	72.6	70.4	69.2	68.1
82.5°	64.7	63.0	59.6	56.7	53.9	53.3	51.6	50.5	49.9	49.9	49.4
85°	39.2	34.6	34.6	34.0	34.0	33.5	32.3	32.3	31.2	32.9	32.9
87.5°	15.9	15.9	14.8	14.8	15.3	14.2	13.6	13.6	13.6	13.1	13.6
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: P243771

CATALOG NUMBER: S125RDR-H1090D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1431.1	1431.1	1431.1	1431.1
2.5°	1359.6	1356.7	1357.3	1353.9
5°	1281.8	1280.1	1274.5	1269.9
7.5°	1210.9	1203.5	1203.0	1198.4
10°	1144.5	1137.7	1134.3	1134.9
12.5°	1086.6	1079.3	1079.3	1074.7
15°	1024.8	1017.4	1018.5	1018.0
17.5°	973.7	968.6	964.6	961.2
20°	923.8	917.5	915.3	912.4
22.5°	877.8	873.3	873.9	873.9
25°	834.1	834.7	829.6	828.5
27.5°	795.5	794.4	793.3	791.0
30°	759.2	754.7	753.6	751.3
32.5°	721.8	721.2	716.7	718.4
35°	683.8	682.1	680.9	679.8
37.5°	648.6	645.2	644.6	643.5
40°	612.8	611.7	606.6	609.4
42.5°	574.2	572.0	572.0	572.0
45°	541.9	535.7	535.7	533.4
47.5°	505.6	503.3	502.2	498.2
50°	469.8	466.4	465.3	465.3
52.5°	433.0	432.4	433.5	431.3
55°	400.6	401.2	400.6	399.5
57.5°	365.4	362.6	362.6	363.2
60°	323.4	323.4	324.6	322.3
62.5°	283.2	282.0	278.0	276.9
65°	241.7	237.2	236.6	237.2
67.5°	204.8	203.1	200.3	200.9
70°	173.1	172.5	169.7	168.0
72.5°	144.7	144.7	143.0	143.0
75°	120.9	119.7	119.2	120.3
77.5°	93.1	90.2	91.4	89.7
80°	67.5	68.7	67.5	67.0
82.5°	49.9	48.8	49.4	48.8
85°	31.8	30.6	31.2	30.6
87.5°	13.1	13.6	13.6	12.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)