

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: P243255

Luminaire Tested: **S122RDR-H865D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243255
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H865D830-X4F0-XX-UDD-A-W
Description: DEFINE 2 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: 2922.7 lumens
Efficiency: N/A
Efficacy: 92.8 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

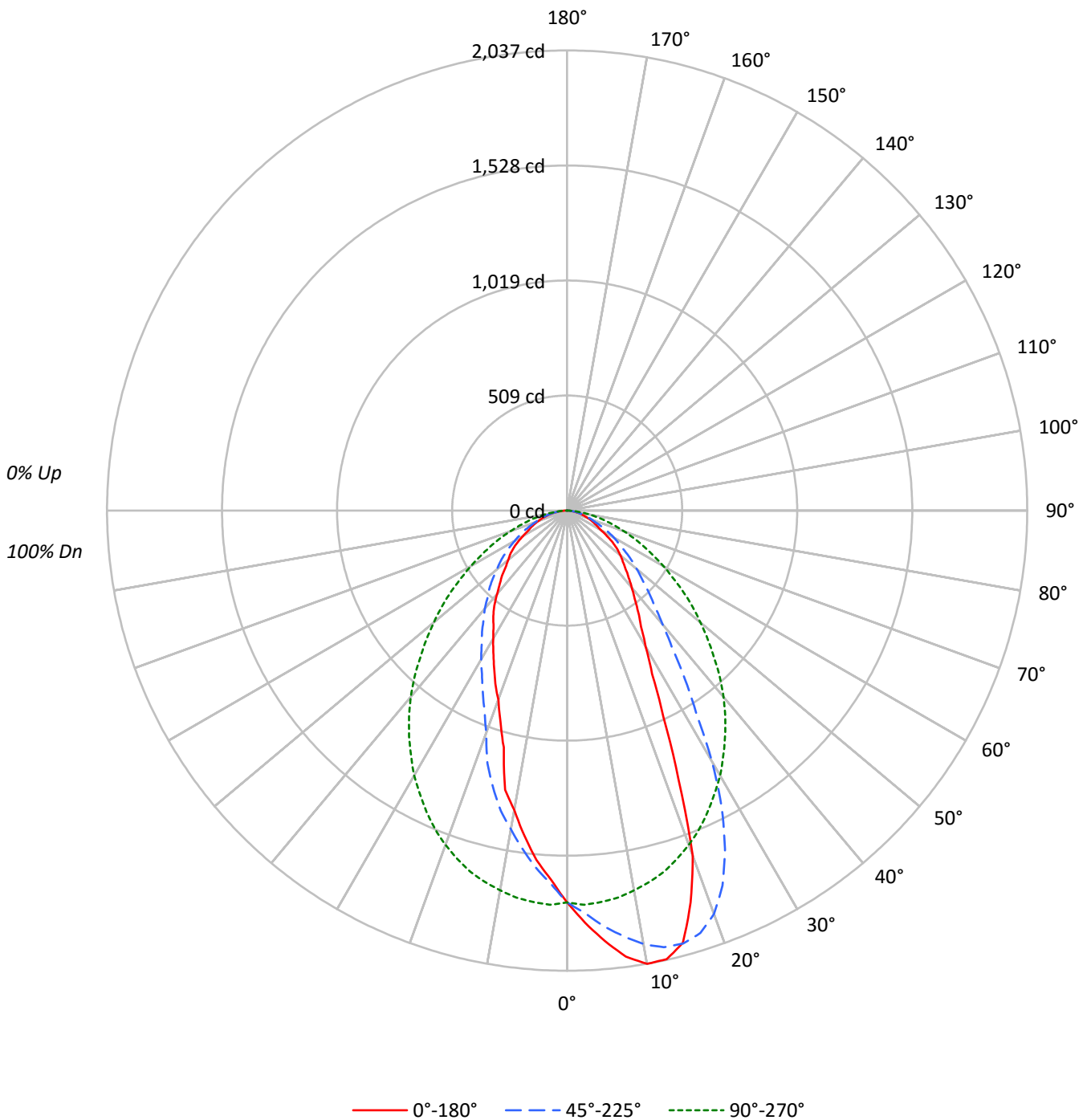
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78					76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60					58				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54					52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					38				
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	33033	33033	33033
5°	36566	33256	29686
10°	39403	33026	26036
15°	39055	32642	21396
20°	32945	31921	18059
25°	21181	30937	16078
30°	15302	29794	14404
35°	12747	28357	13247
40°	11062	26782	11995
45°	9875	24780	10974
50°	9115	22820	10090
55°	8179	20842	9611
60°	6530	18766	8648
65°	5985	16856	7982
70°	5497	14886	7585
75°	5012	13034	7183
80°	4355	10827	6724
85°	3475	8676	6207



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.2	5.6
10°-20°	449.2	15.4
20°-30°	566.2	19.4
30°-40°	543.5	18.6
40°-50°	468.1	16.0
50°-60°	357.9	12.2
60°-70°	227.7	7.8
70°-80°	115.4	3.9
80°-90°	30.5	1.0
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°	1179.5	40.4
0°-40°	1723.0	59.0
0°-60°	2549.1	87.2
0°-90°	2922.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2922.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1734	1734	1734	1734	1734	
5°	1912	1845	1739	1587	1553	186
15°	1980	1984	1655	1268	1085	537
25°	1008	1654	1472	884	765	482
35°	548	907	1220	657	570	345
45°	367	508	920	487	407	285
55°	246	310	628	338	289	217
65°	133	171	374	208	177	132
75°	68	77	177	107	98	72
85°	16	19	40	30	28	18
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°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2
2.5°	1826.1	1828.4	1829.5	1826.7	1820.5	1821.0	1815.4	1805.7	1793.8	1783.0	1789.3
5°	1912.4	1915.2	1914.7	1909.6	1903.3	1897.6	1888.0	1874.4	1860.2	1845.4	1842.6
7.5°	1991.8	1998.1	1996.4	1986.7	1982.2	1974.3	1957.8	1942.5	1920.9	1899.9	1891.4
10°	2037.2	2042.4	2039.5	2037.2	2032.1	2024.2	2009.4	1994.7	1970.9	1948.7	1936.2
12.5°	2033.8	2038.4	2040.7	2042.9	2041.2	2038.4	2032.1	2019.7	2000.4	1979.9	1964.0
15°	1980.5	1973.1	1968.0	1982.2	1987.3	2006.6	2011.1	2012.8	1999.8	1984.5	1980.5
17.5°	1818.2	1820.5	1859.6	1853.4	1861.9	1909.0	1927.7	1953.3	1964.0	1960.6	1967.4
20°	1625.3	1598.6	1617.9	1646.3	1672.9	1741.6	1787.0	1827.3	1873.8	1899.9	1924.9
22.5°	1289.3	1289.9	1336.4	1382.9	1443.1	1517.4	1586.7	1663.8	1746.7	1797.2	1855.7
25°	1007.8	1035.1	1055.5	1075.9	1163.3	1234.8	1350.0	1443.7	1557.7	1653.6	1751.8
27.5°	814.9	843.3	846.7	892.6	944.3	1002.2	1077.6	1225.2	1342.1	1482.8	1604.3
30°	695.7	701.4	713.3	725.2	763.3	817.2	898.3	990.8	1120.8	1281.4	1444.2
32.5°	609.5	608.3	620.3	639.0	660.0	696.3	742.3	818.9	936.3	1064.0	1254.1
35°	548.2	546.5	555.0	561.8	574.3	603.8	645.2	695.7	780.3	907.4	1054.9
37.5°	490.3	493.7	498.8	506.2	522.6	541.4	569.2	611.2	678.1	762.1	903.4
40°	444.9	448.9	454.5	459.7	472.1	487.5	506.2	539.7	584.5	657.7	766.1
42.5°	404.0	405.7	410.3	417.7	426.7	440.4	458.5	484.1	521.5	572.6	667.4
45°	366.6	366.6	371.7	378.5	384.2	397.2	411.4	435.8	464.8	508.5	576.0
47.5°	334.8	335.4	338.2	339.4	345.6	357.5	372.8	392.1	416.0	449.4	512.4
50°	307.6	309.8	311.0	312.7	315.0	321.2	332.0	346.7	372.8	402.3	444.3
52.5°	279.2	282.0	284.3	287.7	291.1	291.7	299.6	309.3	327.4	358.1	392.1
55°	246.3	248.6	253.1	255.9	260.5	264.4	270.7	277.5	289.4	309.8	345.0
57.5°	208.8	209.4	213.9	216.8	225.9	234.9	240.6	248.0	256.5	270.7	297.4
60°	171.4	173.1	173.6	175.9	183.9	193.5	204.9	216.2	225.3	237.8	256.5
62.5°	150.9	151.5	153.2	155.5	156.1	160.6	164.0	177.6	193.5	206.0	218.5
65°	132.8	133.4	133.4	135.1	137.3	139.6	141.3	146.4	153.2	170.8	186.1
67.5°	115.8	115.2	116.3	118.0	118.6	120.3	123.1	126.0	130.5	135.6	151.5
70°	98.7	98.7	98.2	99.9	101.6	102.1	103.8	106.7	109.5	114.1	119.2
72.5°	81.7	82.9	82.9	84.0	84.6	86.8	88.0	89.1	93.1	95.3	99.3
75°	68.1	67.5	69.2	68.7	69.8	70.4	72.1	73.8	74.9	77.2	80.6
77.5°	54.5	53.3	54.5	53.9	55.0	56.2	56.2	57.9	59.0	61.3	63.0
80°	39.7	39.7	40.3	41.4	41.4	42.0	43.1	42.6	44.8	45.4	47.1
82.5°	27.2	27.8	27.8	28.4	28.4	28.4	29.5	29.5	30.1	31.2	31.8
85°	15.9	15.3	15.9	15.9	15.9	16.5	17.0	16.5	17.6	18.7	18.7
87.5°	4.5	4.5	5.1	5.7	5.7	6.2	6.2	6.2	6.8	6.8	7.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2
2.5°	1789.3	1786.4	1779.0	1772.2	1759.7	1749.5	1746.1	1746.7	1731.4	1715.5	1710.9
5°	1838.6	1828.4	1813.7	1798.3	1779.6	1760.9	1749.0	1739.3	1715.5	1691.7	1678.0
7.5°	1879.5	1863.0	1841.5	1817.1	1792.7	1764.9	1745.6	1727.4	1694.5	1662.1	1644.6
10°	1916.9	1893.7	1864.2	1832.4	1800.0	1763.7	1735.9	1707.5	1666.1	1629.8	1599.7
12.5°	1952.7	1915.8	1885.7	1839.8	1804.0	1754.6	1716.6	1683.7	1634.9	1589.5	1556.0
15°	1956.1	1930.0	1889.7	1842.0	1787.6	1741.6	1693.9	1655.3	1599.7	1549.2	1491.9
17.5°	1955.5	1935.1	1893.1	1844.3	1779.0	1718.9	1667.3	1616.7	1553.2	1494.2	1444.8
20°	1935.1	1920.9	1884.6	1826.7	1760.9	1691.7	1634.3	1574.8	1500.4	1439.7	1385.8
22.5°	1886.9	1890.3	1861.9	1810.3	1739.3	1662.1	1595.7	1527.1	1451.0	1381.2	1313.1
25°	1805.1	1841.5	1833.0	1784.7	1709.2	1624.7	1549.2	1472.0	1390.3	1316.0	1253.0
27.5°	1703.6	1771.7	1786.4	1749.0	1676.9	1582.1	1496.4	1412.5	1329.0	1249.0	1184.3
30°	1583.3	1684.8	1722.3	1701.9	1635.5	1536.2	1436.9	1354.6	1263.2	1178.1	1110.0
32.5°	1431.7	1574.2	1640.0	1646.3	1591.8	1485.1	1375.0	1286.5	1192.8	1112.3	1039.1
35°	1262.6	1437.4	1544.7	1573.6	1534.5	1428.9	1313.1	1219.5	1119.6	1038.5	964.7
37.5°	1092.4	1297.8	1438.6	1494.7	1468.6	1366.5	1243.9	1149.1	1050.4	967.5	898.3
40°	935.8	1131.0	1313.7	1401.7	1393.7	1299.0	1175.2	1077.1	976.6	900.0	824.0
42.5°	795.6	984.0	1184.9	1302.9	1309.2	1226.3	1099.8	1001.0	904.6	828.5	749.1
45°	684.9	850.6	1049.8	1190.6	1217.8	1149.7	1021.5	919.9	831.9	760.4	681.0
47.5°	596.4	725.2	910.2	1075.4	1123.6	1064.0	941.4	845.0	762.1	700.8	625.9
50°	519.8	640.7	797.9	950.5	1021.5	976.6	862.0	770.1	695.2	636.1	570.3
52.5°	451.7	545.3	681.5	828.0	923.3	882.4	784.8	700.3	629.9	574.9	519.8
55°	395.5	473.8	594.1	724.7	812.6	789.9	703.1	627.6	565.8	513.6	468.7
57.5°	337.6	403.5	500.5	616.8	703.1	699.7	628.2	555.6	506.8	457.4	425.0
60°	287.1	340.5	419.4	518.1	604.9	605.5	549.9	492.6	450.6	408.0	377.4
62.5°	242.3	284.9	353.5	433.0	502.2	519.8	478.4	428.4	394.4	361.5	335.4
65°	203.7	235.5	287.1	359.2	413.7	437.5	410.3	374.0	345.6	316.1	292.8
67.5°	168.0	191.2	229.3	286.0	340.5	358.1	346.7	318.9	298.5	274.1	256.5
70°	132.2	152.1	178.8	221.3	266.1	290.5	287.1	267.3	250.3	232.7	216.2
72.5°	105.0	116.3	136.8	167.4	203.2	230.4	231.5	221.3	207.1	192.4	181.6
75°	84.6	89.7	99.3	123.1	151.5	174.2	182.2	177.1	165.7	156.6	149.2
77.5°	65.3	69.8	76.0	87.4	109.5	127.1	136.8	137.3	130.5	122.6	116.9
80°	48.8	50.5	55.0	60.7	72.1	87.4	98.7	98.7	94.8	90.8	87.4
82.5°	33.5	35.2	37.5	40.3	46.0	55.0	65.3	67.0	64.7	63.6	59.0
85°	18.7	20.4	21.6	23.3	25.5	30.1	37.5	39.7	40.3	36.9	34.6
87.5°	7.4	7.4	7.9	8.5	9.1	10.8	13.6	17.0	17.0	15.3	14.8
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°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2
2.5°	1705.3	1697.3	1687.1	1678.0	1665.5	1653.1	1650.8	1655.3	1656.5	1650.8	1652.5
5°	1665.0	1650.2	1637.7	1617.3	1604.3	1587.2	1575.9	1575.9	1575.9	1567.4	1559.4
7.5°	1623.0	1603.1	1579.3	1560.0	1533.3	1511.2	1500.4	1495.3	1485.1	1476.6	1466.9
10°	1574.2	1546.4	1516.9	1486.8	1463.5	1432.9	1414.7	1403.4	1385.8	1378.4	1364.2
12.5°	1516.9	1489.1	1453.3	1404.5	1397.7	1360.2	1334.7	1313.7	1292.1	1274.6	1268.3
15°	1470.9	1422.7	1375.0	1340.4	1289.9	1267.7	1230.3	1226.9	1209.3	1157.7	1117.4
17.5°	1396.6	1353.4	1300.7	1262.1	1221.8	1172.4	1132.7	1093.5	1056.1	1019.8	1018.6
20°	1330.7	1280.2	1230.3	1188.3	1117.9	1047.6	1023.2	987.4	965.3	936.3	927.8
22.5°	1258.7	1205.9	1143.5	1082.2	999.9	955.6	929.0	900.6	878.5	865.4	852.4
25°	1186.0	1133.3	1050.4	974.9	918.7	884.1	861.4	830.8	814.9	803.5	786.5
27.5°	1115.1	1048.1	960.7	900.6	855.2	816.0	795.6	770.6	753.0	738.3	727.5
30°	1044.7	952.8	878.5	831.9	785.4	761.0	734.3	715.6	702.5	688.9	671.3
32.5°	967.5	871.1	822.8	765.5	738.3	703.1	683.8	664.5	647.5	637.8	631.6
35°	877.9	800.1	757.0	715.0	680.4	657.1	629.9	618.0	608.9	590.2	582.2
37.5°	801.8	745.7	700.3	662.8	631.0	606.1	593.6	573.2	560.1	553.9	545.3
40°	738.9	688.9	649.8	611.7	585.1	566.9	544.8	534.0	517.0	510.7	503.9
42.5°	684.4	638.4	597.6	568.6	545.3	520.4	509.0	490.9	483.5	468.2	462.5
45°	629.3	588.5	552.7	524.3	502.2	486.9	466.5	455.1	442.1	434.1	418.8
47.5°	574.3	538.0	508.5	484.6	465.3	446.6	429.6	419.9	403.5	395.0	387.0
50°	531.7	496.5	468.7	444.9	425.0	406.3	395.5	379.6	364.9	355.2	352.4
52.5°	481.2	450.6	425.0	406.9	387.0	373.4	358.6	341.1	333.7	324.0	321.8
55°	436.4	411.4	389.9	370.6	353.5	338.2	321.2	308.7	303.0	298.5	295.1
57.5°	394.4	370.6	350.7	333.1	318.4	302.5	288.3	280.9	275.8	270.7	267.3
60°	353.0	331.4	313.2	298.5	283.2	267.8	257.6	251.4	247.4	240.0	237.8
62.5°	316.1	296.2	277.5	263.9	249.7	237.8	229.3	220.7	214.5	208.8	196.9
65°	275.8	258.2	244.0	230.4	216.8	207.7	198.0	188.4	180.5	180.5	180.5
67.5°	240.0	224.7	210.0	198.0	186.1	175.4	165.7	165.1	162.3	161.2	159.5
70°	203.7	192.9	179.3	166.3	154.4	149.2	147.5	144.7	141.3	140.7	138.5
72.5°	170.8	158.3	145.8	134.5	132.2	130.0	126.5	123.7	121.4	119.7	118.6
75°	139.6	127.1	116.9	114.1	111.2	107.3	104.4	102.1	101.0	101.0	100.4
77.5°	106.7	99.3	94.8	90.2	88.0	85.7	84.0	82.9	81.1	81.7	80.6
80°	78.3	76.0	72.1	69.2	68.1	65.8	64.7	64.1	63.0	63.0	62.4
82.5°	56.2	52.2	50.5	48.8	47.7	46.5	47.1	46.5	46.0	45.4	46.0
85°	32.3	31.8	30.6	30.6	30.6	30.1	30.1	30.1	29.5	28.9	28.9
87.5°	14.2	14.8	14.8	13.6	15.3	15.3	14.8	14.8	14.2	15.3	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



TEST NUMBER: P243255

CATALOG NUMBER: S122RDR-H865D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1734.2	1734.2	1734.2	1734.2
2.5°	1645.1	1644.6	1641.1	1635.5
5°	1556.0	1553.8	1548.1	1552.6
7.5°	1460.7	1454.4	1448.8	1451.6
10°	1358.5	1356.3	1352.9	1346.1
12.5°	1245.6	1254.7	1245.0	1266.6
15°	1078.2	1118.5	1068.0	1085.0
17.5°	994.8	995.4	988.5	980.6
20°	916.5	896.6	904.0	890.9
22.5°	841.0	836.5	834.2	829.7
25°	773.5	765.0	762.1	765.0
27.5°	723.5	719.6	708.8	707.1
30°	661.1	659.4	656.0	654.9
32.5°	622.0	614.6	612.9	606.1
35°	578.3	574.3	571.5	569.7
37.5°	534.6	532.3	527.2	530.0
40°	498.8	487.5	482.9	482.4
42.5°	459.7	453.4	444.3	441.5
45°	414.3	411.4	408.6	407.4
47.5°	374.5	372.8	369.4	367.7
50°	346.2	341.6	341.1	340.5
52.5°	318.9	317.2	315.5	317.8
55°	293.4	291.1	289.4	289.4
57.5°	265.6	261.6	258.2	258.8
60°	233.2	231.0	228.1	227.0
62.5°	195.8	195.8	195.2	195.2
65°	178.2	177.1	176.5	177.1
67.5°	158.9	157.8	156.1	156.6
70°	136.8	136.2	136.8	136.2
72.5°	116.9	116.3	116.9	118.0
75°	98.7	98.2	97.6	97.6
77.5°	80.0	79.4	78.3	79.4
80°	62.4	61.9	61.3	61.3
82.5°	44.3	44.8	44.3	44.3
85°	28.9	29.5	28.9	28.4
87.5°	14.8	15.3	14.2	13.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)