

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: P243275

Luminaire Tested: **S122RDR-H865D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243275
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-H865D935-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2669.9 lumens
Efficiency: N/A
Efficacy: 84.8 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

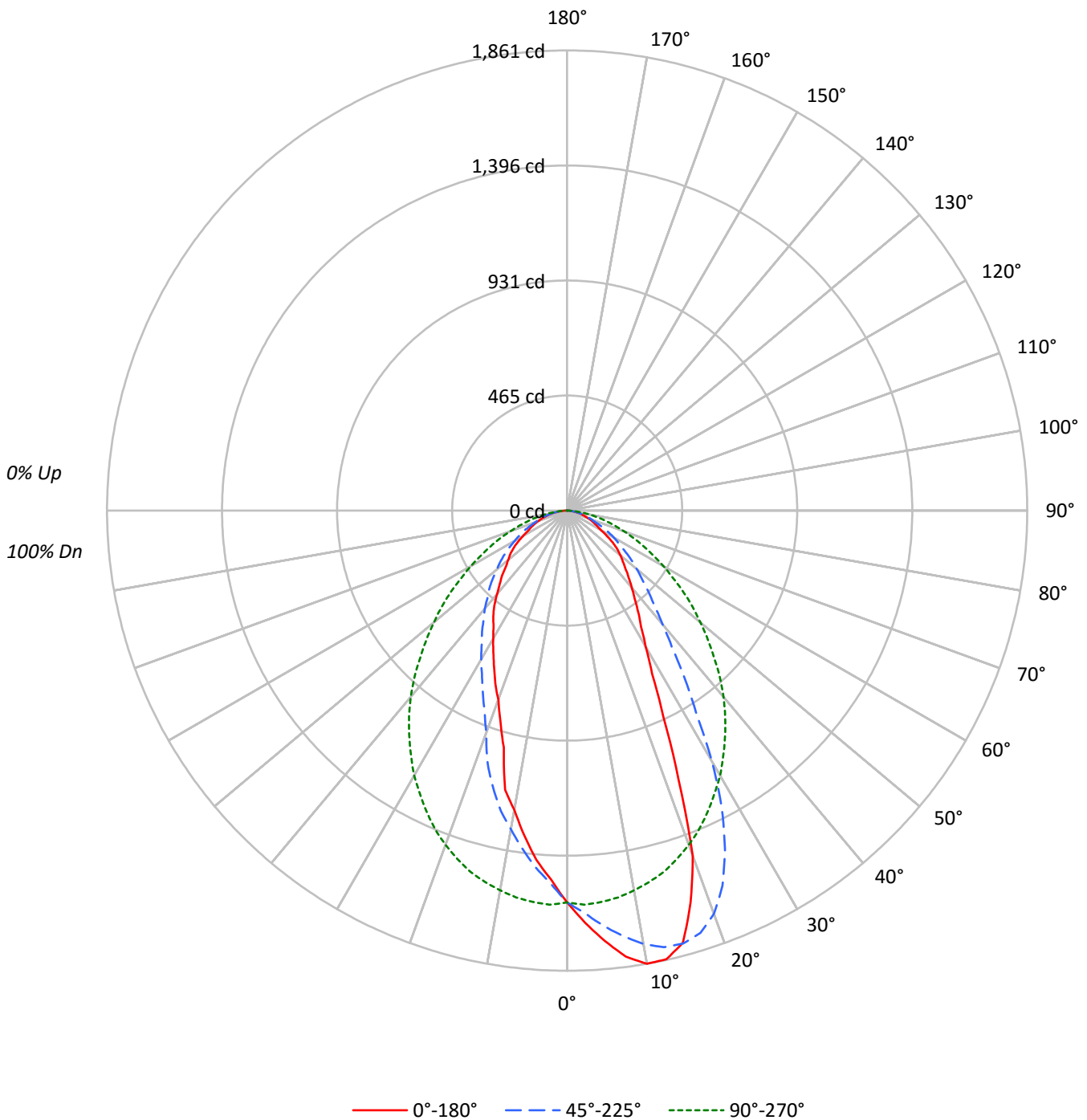
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	30175	30175	30175
5°	33403	30379	27119
10°	35995	30169	23782
15°	35677	29818	19544
20°	30095	29159	16498
25°	19348	28261	14687
30°	13977	27216	13157
35°	11645	25904	12103
40°	10105	24465	10956
45°	9021	22636	10026
50°	8327	20844	9216
55°	7472	19039	8780
60°	5966	17143	7901
65°	5467	15396	7288
70°	5023	13600	6928
75°	4578	11900	6565
80°	3982	9894	6143
85°	3169	7933	5660



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	5.6
10°-20°	410.3	15.4
20°-30°	517.2	19.4
30°-40°	496.5	18.6
40°-50°	427.6	16.0
50°-60°	326.9	12.2
60°-70°	208.0	7.8
70°-80°	105.4	3.9
80°-90°	27.8	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°	1077.4	40.4
0°-40°	1573.9	59.0
0°-60°	2328.5	87.2
0°-90°	2669.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2669.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1584	1584	1584	1584	1584	
5°	1747	1686	1589	1450	1418	170
15°	1809	1813	1512	1158	991	491
25°	921	1511	1345	808	699	440
35°	501	829	1114	600	520	315
45°	335	464	840	445	372	261
55°	225	283	573	309	264	198
65°	121	156	342	190	162	121
75°	62	70	162	98	89	66
85°	14	17	36	28	26	17
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°	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2
2.5°	1668.2	1670.2	1671.3	1668.7	1663.0	1663.5	1658.3	1649.5	1638.6	1628.8	1634.5
5°	1747.0	1749.5	1749.0	1744.4	1738.7	1733.5	1724.7	1712.2	1699.3	1685.8	1683.2
7.5°	1819.5	1825.2	1823.7	1814.9	1810.7	1803.5	1788.4	1774.4	1754.7	1735.5	1727.8
10°	1861.0	1865.7	1863.1	1861.0	1856.3	1849.1	1835.6	1822.1	1800.3	1780.1	1768.7
12.5°	1857.9	1862.0	1864.1	1866.2	1864.6	1862.0	1856.3	1844.9	1827.3	1808.6	1794.1
15°	1809.2	1802.4	1797.8	1810.7	1815.4	1833.0	1837.2	1838.7	1826.8	1812.8	1809.2
17.5°	1660.9	1663.0	1698.7	1693.0	1700.8	1743.8	1760.9	1784.3	1794.1	1791.0	1797.2
20°	1484.7	1460.3	1477.9	1503.8	1528.2	1590.9	1632.4	1669.2	1711.7	1735.5	1758.4
22.5°	1177.8	1178.3	1220.8	1263.3	1318.2	1386.2	1449.4	1519.9	1595.6	1641.7	1695.1
25°	920.6	945.5	964.2	982.9	1062.7	1128.0	1233.2	1318.8	1423.0	1510.6	1600.2
27.5°	744.4	770.3	773.4	815.4	862.6	915.5	984.4	1119.2	1226.0	1354.5	1465.5
30°	635.5	640.7	651.6	662.5	697.2	746.5	820.6	905.1	1023.8	1170.5	1319.3
32.5°	556.7	555.7	566.6	583.7	602.9	636.1	678.0	748.0	855.3	972.0	1145.6
35°	500.8	499.2	507.0	513.2	524.6	551.6	589.4	635.5	712.8	828.9	963.7
37.5°	447.9	451.0	455.7	462.4	477.4	494.5	519.9	558.3	619.5	696.2	825.3
40°	406.4	410.0	415.2	419.9	431.3	445.3	462.4	493.0	533.9	600.8	699.8
42.5°	369.1	370.6	374.8	381.5	389.8	402.3	418.9	442.2	476.4	523.0	609.6
45°	334.9	334.9	339.5	345.8	350.9	362.9	375.8	398.1	424.6	464.5	526.2
47.5°	305.8	306.4	309.0	310.0	315.7	326.6	340.6	358.2	380.0	410.6	468.1
50°	281.0	283.0	284.1	285.6	287.7	293.4	303.3	316.7	340.6	367.5	405.9
52.5°	255.0	257.6	259.7	262.8	265.9	266.4	273.7	282.5	299.1	327.1	358.2
55°	225.0	227.1	231.2	233.8	237.9	241.6	247.3	253.5	264.4	283.0	315.2
57.5°	190.8	191.3	195.4	198.0	206.3	214.6	219.8	226.5	234.3	247.3	271.6
60°	156.6	158.1	158.6	160.7	168.0	176.8	187.1	197.5	205.8	217.2	234.3
62.5°	137.9	138.4	140.0	142.0	142.6	146.7	149.8	162.3	176.8	188.2	199.6
65°	121.3	121.8	121.8	123.4	125.4	127.5	129.1	133.7	140.0	156.0	170.0
67.5°	105.8	105.2	106.3	107.8	108.3	109.9	112.5	115.1	119.2	123.9	138.4
70°	90.2	90.2	89.7	91.2	92.8	93.3	94.9	97.5	100.0	104.2	108.9
72.5°	74.6	75.7	75.7	76.7	77.2	79.3	80.3	81.4	85.0	87.1	90.7
75°	62.2	61.7	63.2	62.7	63.8	64.3	65.8	67.4	68.4	70.5	73.6
77.5°	49.8	48.7	49.8	49.2	50.3	51.3	51.3	52.9	53.9	56.0	57.5
80°	36.3	36.3	36.8	37.8	37.8	38.4	39.4	38.9	41.0	41.5	43.0
82.5°	24.9	25.4	25.4	25.9	25.9	25.9	27.0	27.0	27.5	28.5	29.0
85°	14.5	14.0	14.5	14.5	14.5	15.0	15.6	15.0	16.1	17.1	17.1
87.5°	4.1	4.1	4.7	5.2	5.2	5.7	5.7	5.7	6.2	6.2	6.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2
2.5°	1634.5	1631.9	1625.1	1618.9	1607.5	1598.2	1595.1	1595.6	1581.6	1567.1	1562.9
5°	1679.6	1670.2	1656.8	1642.8	1625.7	1608.5	1597.7	1588.8	1567.1	1545.3	1532.9
7.5°	1716.9	1701.9	1682.2	1659.9	1637.6	1612.2	1594.5	1578.0	1547.9	1518.3	1502.3
10°	1751.1	1729.8	1702.9	1673.9	1644.3	1611.1	1585.7	1559.8	1522.0	1488.8	1461.3
12.5°	1783.8	1750.1	1722.6	1680.6	1647.9	1602.8	1568.1	1538.0	1493.5	1452.0	1421.4
15°	1786.9	1763.0	1726.2	1682.7	1632.9	1590.9	1547.4	1512.1	1461.3	1415.2	1362.8
17.5°	1786.3	1767.7	1729.3	1684.7	1625.1	1570.2	1523.0	1476.9	1418.8	1364.9	1319.8
20°	1767.7	1754.7	1721.6	1668.7	1608.5	1545.3	1492.9	1438.5	1370.6	1315.1	1265.9
22.5°	1723.6	1726.7	1700.8	1653.6	1588.8	1518.3	1457.7	1395.0	1325.5	1261.7	1199.5
25°	1649.0	1682.2	1674.4	1630.3	1561.4	1484.1	1415.2	1344.7	1270.0	1202.1	1144.6
27.5°	1556.2	1618.4	1631.9	1597.7	1531.8	1445.3	1367.0	1290.3	1214.1	1141.0	1081.9
30°	1446.3	1539.1	1573.3	1554.6	1494.0	1403.3	1312.5	1237.4	1153.9	1076.2	1014.0
32.5°	1307.9	1438.0	1498.1	1503.8	1454.1	1356.6	1256.0	1175.2	1089.6	1016.0	949.2
35°	1153.4	1313.1	1411.0	1437.5	1401.7	1305.3	1199.5	1114.0	1022.8	948.6	881.3
37.5°	997.9	1185.5	1314.1	1365.4	1341.6	1248.3	1136.3	1049.7	959.5	883.8	820.6
40°	854.8	1033.1	1200.1	1280.4	1273.1	1186.6	1073.6	983.9	892.1	822.2	752.7
42.5°	726.8	898.9	1082.4	1190.2	1195.9	1120.2	1004.6	914.4	826.3	756.8	684.3
45°	625.7	777.1	959.0	1087.6	1112.5	1050.2	933.1	840.3	760.0	694.6	622.1
47.5°	544.8	662.5	831.5	982.3	1026.4	972.0	860.0	771.9	696.2	640.2	571.8
50°	474.8	585.3	728.8	868.3	933.1	892.1	787.4	703.4	635.0	581.1	521.0
52.5°	412.6	498.2	622.6	756.3	843.4	806.1	716.9	639.7	575.4	525.1	474.8
55°	361.3	432.9	542.7	662.0	742.3	721.6	642.3	573.3	516.8	469.1	428.2
57.5°	308.4	368.6	457.2	563.5	642.3	639.2	573.9	507.5	462.9	417.8	388.3
60°	262.3	311.0	383.1	473.3	552.6	553.1	502.3	450.0	411.6	372.7	344.7
62.5°	221.3	260.2	323.0	395.5	458.8	474.8	437.0	391.4	360.3	330.2	306.4
65°	186.1	215.1	262.3	328.1	377.9	399.7	374.8	341.6	315.7	288.7	267.5
67.5°	153.4	174.7	209.4	261.3	311.0	327.1	316.7	291.3	272.7	250.4	234.3
70°	120.8	138.9	163.3	202.2	243.1	265.4	262.3	244.2	228.6	212.5	197.5
72.5°	95.9	106.3	124.9	152.9	185.6	210.5	211.5	202.2	189.2	175.7	165.9
75°	77.2	81.9	90.7	112.5	138.4	159.1	166.4	161.7	151.4	143.1	136.3
77.5°	59.6	63.8	69.5	79.8	100.0	116.1	124.9	125.4	119.2	112.0	106.8
80°	44.6	46.1	50.3	55.5	65.8	79.8	90.2	90.2	86.6	82.9	79.8
82.5°	30.6	32.1	34.2	36.8	42.0	50.3	59.6	61.2	59.1	58.1	53.9
85°	17.1	18.7	19.7	21.3	23.3	27.5	34.2	36.3	36.8	33.7	31.6
87.5°	6.7	6.7	7.3	7.8	8.3	9.8	12.4	15.6	15.6	14.0	13.5
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°	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2	1584.2
2.5°	1557.7	1550.5	1541.2	1532.9	1521.5	1510.1	1508.0	1512.1	1513.2	1508.0	1509.5
5°	1520.9	1507.5	1496.1	1477.4	1465.5	1449.9	1439.6	1439.6	1439.6	1431.8	1424.5
7.5°	1482.6	1464.4	1442.7	1425.0	1400.7	1380.5	1370.6	1365.9	1356.6	1348.8	1340.0
10°	1438.0	1412.6	1385.6	1358.2	1336.9	1308.9	1292.3	1282.0	1265.9	1259.2	1246.2
12.5°	1385.6	1360.2	1327.6	1283.0	1276.8	1242.6	1219.2	1200.1	1180.4	1164.3	1158.6
15°	1343.6	1299.6	1256.0	1224.4	1178.3	1158.1	1123.9	1120.7	1104.7	1057.5	1020.7
17.5°	1275.7	1236.3	1188.1	1152.9	1116.1	1071.0	1034.7	998.9	964.7	931.5	930.5
20°	1215.6	1169.5	1123.9	1085.5	1021.2	956.9	934.6	902.0	881.8	855.3	847.6
22.5°	1149.8	1101.6	1044.5	988.6	913.4	873.0	848.6	822.7	802.5	790.5	778.6
25°	1083.4	1035.2	959.5	890.6	839.3	807.6	786.9	758.9	744.4	734.0	718.5
27.5°	1018.6	957.5	877.6	822.7	781.2	745.4	726.8	704.0	687.9	674.4	664.6
30°	954.3	870.4	802.5	760.0	717.4	695.2	670.8	653.7	641.8	629.3	613.2
32.5°	883.8	795.7	751.7	699.3	674.4	642.3	624.7	607.0	591.5	582.7	577.0
35°	801.9	730.9	691.5	653.2	621.5	600.3	575.4	564.5	556.2	539.1	531.9
37.5°	732.5	681.2	639.7	605.5	576.4	553.6	542.2	523.6	511.6	505.9	498.2
40°	674.9	629.3	593.5	558.8	534.5	517.9	497.6	487.8	472.2	466.5	460.3
42.5°	625.2	583.2	545.9	519.4	498.2	475.4	465.0	448.4	441.7	427.7	422.5
45°	574.9	537.6	504.9	479.0	458.8	444.8	426.1	415.7	403.8	396.6	382.6
47.5°	524.6	491.4	464.5	442.7	425.1	408.0	392.4	383.6	368.6	360.8	353.5
50°	485.7	453.6	428.2	406.4	388.3	371.2	361.3	346.8	333.3	324.5	321.9
52.5°	439.6	411.6	388.3	371.7	353.5	341.1	327.6	311.5	304.8	296.0	293.9
55°	398.6	375.8	356.1	338.5	323.0	309.0	293.4	282.0	276.8	272.7	269.6
57.5°	360.3	338.5	320.4	304.3	290.8	276.3	263.3	256.6	251.9	247.3	244.2
60°	322.4	302.7	286.1	272.7	258.7	244.7	235.3	229.6	226.0	219.3	217.2
62.5°	288.7	270.6	253.5	241.0	228.1	217.2	209.4	201.7	195.9	190.8	179.9
65°	251.9	235.9	222.9	210.5	198.0	189.7	180.9	172.1	164.8	164.8	164.8
67.5°	219.3	205.3	191.8	180.9	170.0	160.2	151.4	150.8	148.3	147.2	145.7
70°	186.1	176.3	163.8	151.9	141.0	136.3	134.8	132.2	129.1	128.6	126.5
72.5°	156.0	144.6	133.2	122.9	120.8	118.7	115.6	113.0	110.9	109.4	108.3
75°	127.5	116.1	106.8	104.2	101.6	98.0	95.4	93.3	92.3	92.3	91.8
77.5°	97.5	90.7	86.6	82.4	80.3	78.3	76.7	75.7	74.1	74.6	73.6
80°	71.5	69.5	65.8	63.2	62.2	60.1	59.1	58.6	57.5	57.5	57.0
82.5°	51.3	47.7	46.1	44.6	43.5	42.5	43.0	42.5	42.0	41.5	42.0
85°	29.5	29.0	28.0	28.0	28.0	27.5	27.5	27.5	27.0	26.4	26.4
87.5°	13.0	13.5	13.5	12.4	14.0	14.0	13.5	13.5	13.0	14.0	13.0
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: P243275

CATALOG NUMBER: S122RDR-H865D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1584.2	1584.2	1584.2	1584.2
2.5°	1502.8	1502.3	1499.2	1494.0
5°	1421.4	1419.3	1414.2	1418.3
7.5°	1334.3	1328.6	1323.4	1326.0
10°	1241.0	1238.9	1235.8	1229.6
12.5°	1137.9	1146.1	1137.3	1157.0
15°	984.9	1021.7	975.6	991.1
17.5°	908.7	909.2	903.0	895.8
20°	837.2	819.0	825.8	813.9
22.5°	768.2	764.1	762.0	757.9
25°	706.6	698.8	696.2	698.8
27.5°	660.9	657.3	647.5	645.9
30°	603.9	602.4	599.3	598.2
32.5°	568.1	561.4	559.9	553.6
35°	528.2	524.6	522.0	520.5
37.5°	488.3	486.2	481.6	484.2
40°	455.7	445.3	441.1	440.6
42.5°	419.9	414.2	405.9	403.3
45°	378.4	375.8	373.2	372.2
47.5°	342.1	340.6	337.5	335.9
50°	316.2	312.1	311.5	311.0
52.5°	291.3	289.8	288.2	290.3
55°	268.0	265.9	264.4	264.4
57.5°	242.6	239.0	235.9	236.4
60°	213.1	211.0	208.4	207.4
62.5°	178.8	178.8	178.3	178.3
65°	162.8	161.7	161.2	161.7
67.5°	145.1	144.1	142.6	143.1
70°	124.9	124.4	124.9	124.4
72.5°	106.8	106.3	106.8	107.8
75°	90.2	89.7	89.2	89.2
77.5°	73.1	72.6	71.5	72.6
80°	57.0	56.5	56.0	56.0
82.5°	40.4	41.0	40.4	40.4
85°	26.4	27.0	26.4	25.9
87.5°	13.5	14.0	13.0	12.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)