

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: P242410

Luminaire Tested: **S122RDR-S865D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242410
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S865D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2585.5 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

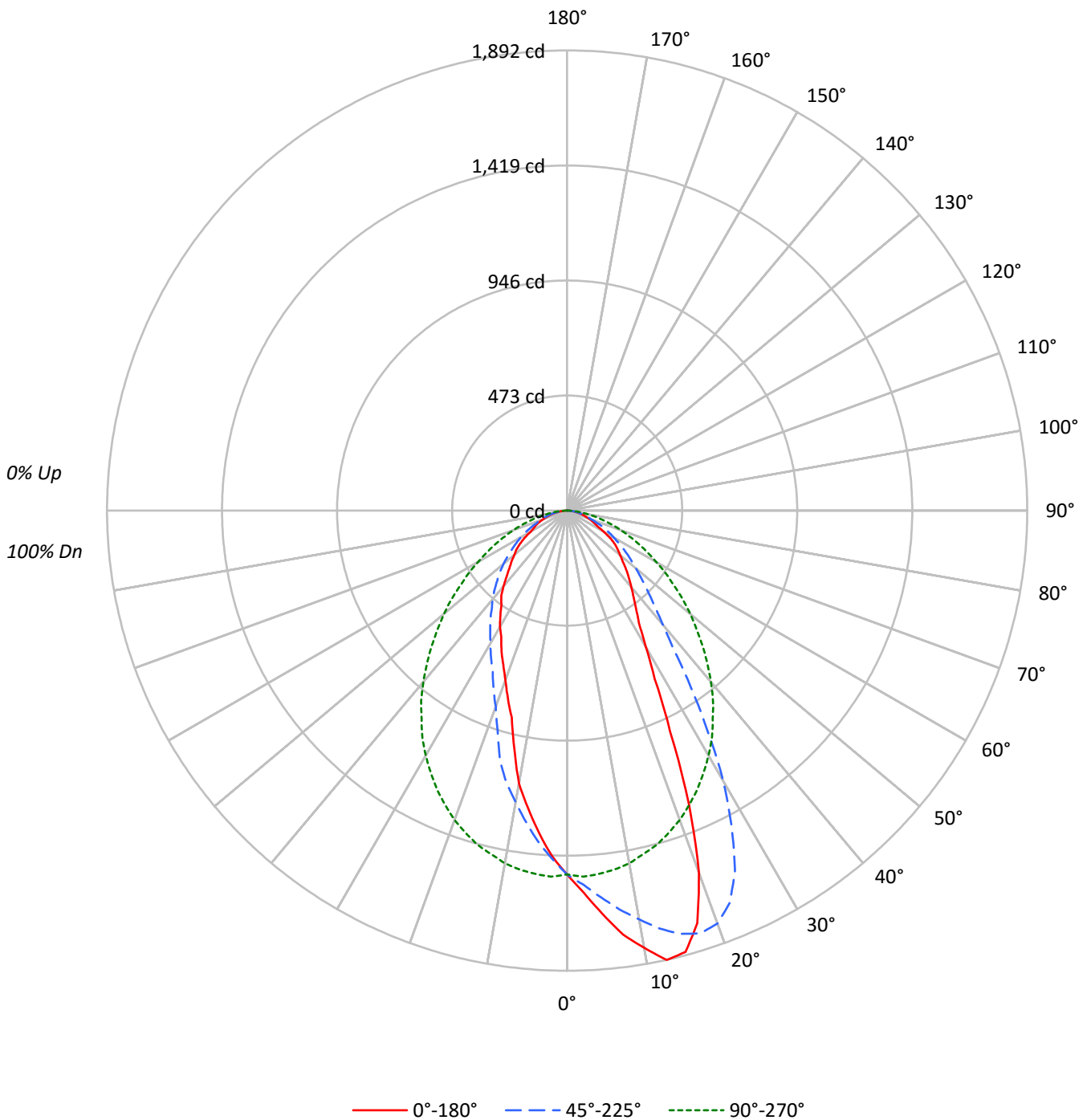
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	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	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	28499	28499	28499
5°	31830	28679	25428
10°	35314	28477	22042
15°	37051	28059	17367
20°	32120	27442	15028
25°	21065	26595	13417
30°	14180	25568	12143
35°	11485	24274	10952
40°	10212	22868	10135
45°	9242	21216	9046
50°	8413	19581	8380
55°	7907	17767	7804
60°	6613	16103	6537
65°	5575	14621	6328
70°	5151	13060	5965
75°	4820	11363	5512
80°	4453	9357	4903
85°	4087	7387	4327



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.9	5.5
10°-20°	396.1	15.3
20°-30°	509.8	19.7
30°-40°	483.6	18.7
40°-50°	414.4	16.0
50°-60°	315.7	12.2
60°-70°	199.1	7.7
70°-80°	99.3	3.8
80°-90°	25.5	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°	1047.8	40.5
0°-40°	1531.4	59.2
0°-60°	2261.5	87.5
0°-90°	2585.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2585.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1496	1496	1496	1496	1496	
5°	1665	1596	1500	1367	1330	164
15°	1879	1802	1423	1065	881	511
25°	1002	1633	1265	725	638	473
35°	494	887	1044	550	471	314
45°	343	468	788	406	336	265
55°	238	291	535	275	235	210
65°	124	166	324	165	140	125
75°	66	73	154	84	75	69
85°	19	19	34	20	20	21
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°	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2
2.5°	1572.1	1573.7	1575.2	1571.6	1571.6	1568.5	1561.7	1556.5	1542.0	1539.9	1539.9
5°	1664.7	1663.6	1665.7	1658.9	1649.6	1647.5	1637.6	1624.6	1611.1	1596.0	1592.9
7.5°	1758.2	1752.0	1749.4	1752.5	1742.6	1729.1	1712.5	1696.9	1673.5	1654.3	1642.3
10°	1825.8	1843.0	1832.6	1814.4	1818.0	1793.6	1780.6	1758.2	1739.5	1706.8	1699.5
12.5°	1892.4	1896.5	1895.0	1886.7	1879.9	1864.8	1846.1	1827.4	1788.9	1760.3	1730.2
15°	1878.9	1888.7	1891.3	1888.2	1890.8	1889.8	1880.4	1864.3	1834.1	1801.9	1773.8
17.5°	1779.0	1790.5	1799.8	1808.1	1821.1	1846.6	1854.4	1857.5	1845.1	1822.2	1798.8
20°	1584.6	1573.2	1621.0	1645.4	1666.2	1718.2	1762.9	1780.1	1807.6	1807.1	1801.9
22.5°	1309.1	1315.3	1360.0	1390.2	1460.9	1512.9	1565.4	1641.8	1701.6	1745.8	1772.8
25°	1002.3	1022.1	1067.3	1106.8	1174.4	1271.1	1359.0	1460.9	1557.0	1632.9	1705.2
27.5°	779.8	782.4	823.5	863.5	905.1	988.8	1106.3	1228.5	1365.7	1464.5	1589.3
30°	644.7	641.5	656.6	679.0	713.3	774.6	857.8	977.4	1114.1	1284.6	1436.4
32.5°	549.0	550.0	560.4	575.5	602.5	638.9	689.4	780.9	908.2	1075.1	1259.7
35°	493.9	493.4	501.7	513.6	525.6	552.1	591.1	642.1	731.0	887.4	1069.4
37.5°	448.1	450.7	454.4	462.2	476.7	492.3	516.8	552.6	620.2	717.4	880.7
40°	410.7	411.7	417.5	423.7	431.5	442.9	462.2	489.7	536.0	609.8	721.6
42.5°	376.4	377.4	381.1	386.8	392.5	403.9	419.0	441.9	477.3	530.8	618.1
45°	343.1	343.1	346.8	349.4	356.1	366.5	379.5	399.3	425.3	467.9	529.2
47.5°	310.9	310.9	313.5	318.2	322.8	331.2	344.7	361.3	380.0	414.9	469.5
50°	283.9	284.4	285.9	289.6	292.2	299.5	309.3	323.4	343.1	368.6	412.3
52.5°	262.0	261.5	263.6	264.6	266.2	270.9	277.6	289.6	306.7	328.0	362.4
55°	238.1	236.0	239.1	241.7	243.3	245.4	249.5	257.3	272.4	291.1	318.2
57.5°	210.0	209.0	210.6	213.2	217.8	223.0	225.6	230.8	238.6	253.2	281.8
60°	173.6	173.6	178.3	179.9	185.6	192.9	200.2	204.3	212.1	220.9	240.7
62.5°	141.4	141.9	143.5	145.0	147.6	157.0	167.9	178.3	185.6	193.9	205.4
65°	123.7	124.8	124.8	125.8	127.9	130.0	134.1	141.4	154.4	166.4	176.2
67.5°	108.1	108.1	108.7	109.7	110.2	112.8	114.4	118.0	120.6	134.1	147.6
70°	92.5	94.1	93.6	94.6	95.1	96.2	98.3	99.8	104.5	107.1	114.4
72.5°	78.0	79.0	79.0	79.5	81.1	81.1	82.7	84.2	86.8	88.9	92.0
75°	65.5	65.0	65.5	66.5	67.1	67.6	67.6	69.7	71.2	73.3	75.9
77.5°	53.0	53.5	53.5	53.5	53.5	54.6	54.6	55.6	57.2	58.2	59.8
80°	40.6	41.1	40.6	41.1	41.6	42.1	41.6	42.1	43.7	44.7	44.7
82.5°	29.1	29.1	29.6	29.6	29.6	29.6	30.7	30.7	31.7	31.2	31.7
85°	18.7	18.2	18.2	18.2	18.7	19.2	18.7	18.7	19.2	19.2	19.2
87.5°	8.3	8.8	8.8	8.8	8.8	8.8	8.8	9.4	8.8	9.4	8.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2
2.5°	1540.9	1536.8	1533.1	1523.8	1519.1	1508.7	1507.1	1506.6	1493.1	1480.1	1476.5
5°	1584.6	1576.3	1563.8	1549.2	1534.2	1518.6	1508.2	1499.9	1479.1	1459.3	1447.9
7.5°	1627.7	1612.7	1592.9	1568.0	1546.6	1521.7	1504.5	1488.9	1460.3	1434.4	1417.2
10°	1677.1	1648.0	1619.4	1581.5	1551.8	1522.7	1495.7	1472.3	1439.0	1401.6	1375.1
12.5°	1707.8	1675.1	1632.9	1596.0	1555.5	1516.5	1478.0	1446.3	1405.8	1366.8	1334.0
15°	1734.8	1700.5	1652.7	1599.7	1550.3	1501.9	1460.3	1422.9	1372.0	1325.7	1287.2
17.5°	1759.8	1712.5	1663.1	1601.8	1547.2	1488.4	1435.9	1389.1	1333.5	1278.9	1235.2
20°	1770.7	1723.9	1664.7	1603.3	1535.7	1463.5	1405.8	1353.8	1292.9	1232.1	1180.1
22.5°	1764.0	1730.2	1662.6	1586.2	1516.5	1440.1	1373.0	1310.6	1241.5	1179.1	1116.7
25°	1728.6	1716.1	1653.7	1573.7	1494.7	1406.8	1331.4	1265.4	1188.4	1121.9	1056.4
27.5°	1663.6	1681.8	1637.6	1550.8	1465.5	1370.9	1288.8	1214.4	1135.9	1061.6	996.1
30°	1560.7	1622.6	1605.9	1526.9	1428.6	1336.1	1241.0	1162.5	1077.2	1000.3	935.8
32.5°	1419.8	1532.1	1556.5	1493.6	1391.2	1287.2	1186.4	1108.4	1018.4	936.3	873.9
35°	1268.5	1421.4	1491.5	1449.4	1347.5	1237.8	1134.9	1043.9	954.5	874.4	812.1
37.5°	1089.2	1292.9	1401.1	1396.4	1299.2	1187.4	1075.6	985.7	893.7	814.7	749.7
40°	915.5	1141.1	1293.5	1327.3	1248.2	1125.0	1011.7	919.7	830.3	753.3	675.8
42.5°	759.5	984.1	1180.1	1245.1	1186.4	1064.2	950.3	853.1	766.8	695.1	615.5
45°	639.5	836.0	1042.4	1147.4	1112.5	999.2	879.1	787.6	706.0	643.1	567.2
47.5°	553.7	696.6	904.1	1041.3	1037.2	929.5	810.0	722.1	645.2	586.9	522.5
50°	482.5	603.1	772.0	933.2	946.7	859.9	747.6	660.8	590.1	528.2	478.8
52.5°	418.5	512.6	660.2	813.1	857.8	785.5	677.4	598.9	530.8	475.2	434.6
55°	364.4	441.4	556.8	701.3	759.5	706.5	609.8	535.0	479.3	431.5	395.1
57.5°	317.1	377.4	473.6	594.7	660.8	624.9	542.2	480.4	431.0	386.3	357.2
60°	272.9	320.2	398.7	496.0	570.8	547.4	479.3	422.7	382.1	344.7	317.6
62.5°	231.3	270.3	334.8	409.1	476.2	470.0	417.5	372.2	337.9	304.7	282.8
65°	192.9	222.5	275.0	336.9	392.0	396.7	356.6	324.4	292.7	265.7	245.4
67.5°	159.6	179.9	219.4	274.0	316.1	330.6	303.6	277.6	251.6	229.8	211.6
70°	129.5	145.0	172.1	214.2	252.1	267.7	253.7	234.5	212.6	195.5	180.4
72.5°	98.8	113.9	132.0	160.1	191.3	208.5	205.9	193.4	176.8	163.2	149.2
75°	79.0	83.7	97.2	118.0	143.5	158.0	161.7	154.4	140.4	129.5	121.1
77.5°	61.3	64.5	71.7	84.2	101.9	114.9	120.6	119.6	109.2	101.9	94.1
80°	46.8	48.3	51.5	56.1	68.6	81.6	85.3	85.3	78.5	75.9	68.1
82.5°	32.8	33.8	35.4	37.4	41.6	52.5	56.7	57.7	54.1	50.4	44.7
85°	20.3	19.8	20.8	22.4	23.4	26.5	32.8	33.8	32.8	28.6	27.0
87.5°	8.8	9.4	9.4	8.8	9.4	9.9	12.5	15.1	13.0	11.4	10.4
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°	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2	1496.2
2.5°	1469.7	1466.1	1459.3	1448.9	1442.7	1431.8	1424.5	1428.6	1429.7	1428.6	1427.6
5°	1435.4	1424.5	1409.4	1394.8	1381.3	1366.8	1358.5	1354.8	1347.5	1343.4	1341.3
7.5°	1396.4	1380.3	1359.0	1335.6	1313.7	1292.9	1283.6	1276.3	1262.8	1255.5	1248.8
10°	1351.7	1322.1	1300.7	1267.5	1247.2	1217.6	1197.3	1197.8	1177.5	1166.1	1157.8
12.5°	1302.3	1269.0	1230.0	1200.9	1170.8	1148.4	1122.9	1110.5	1088.6	1077.7	1051.7
15°	1246.7	1208.7	1171.3	1130.7	1102.1	1065.2	1029.9	986.7	951.9	921.8	913.4
17.5°	1187.4	1140.6	1103.7	1062.1	1017.4	950.3	906.7	880.2	859.4	843.8	831.3
20°	1126.1	1078.2	1038.2	966.5	900.4	858.3	828.2	808.9	787.1	769.9	760.6
22.5°	1061.6	1011.2	952.9	870.8	823.0	791.3	765.3	742.4	729.4	716.9	708.6
25°	1001.3	946.7	856.8	801.7	760.1	724.7	706.0	692.5	676.9	658.7	650.4
27.5°	938.4	851.6	783.5	743.4	700.8	678.4	662.3	640.0	625.9	619.2	609.8
30°	866.1	779.3	728.9	684.2	656.1	630.6	610.9	599.4	585.9	571.9	566.2
32.5°	785.5	720.6	672.7	637.4	608.8	588.0	573.4	553.2	544.3	537.0	523.5
35°	721.6	669.1	624.9	594.7	567.7	550.0	531.8	520.9	503.2	496.0	491.3
37.5°	663.4	617.6	584.3	551.1	530.3	509.5	499.1	480.9	474.1	462.7	453.3
40°	615.5	570.8	539.1	513.1	489.2	474.7	460.6	446.6	435.1	430.5	418.5
42.5°	566.7	532.4	500.6	471.5	457.5	441.9	423.2	413.8	401.9	393.6	387.3
45°	522.5	490.2	463.2	439.8	422.1	406.0	394.6	377.4	370.7	355.6	349.4
47.5°	483.5	452.3	426.3	403.4	385.8	376.4	359.8	344.7	335.3	324.9	316.1
50°	441.4	416.4	391.5	371.7	356.1	341.0	323.9	317.1	300.5	295.8	291.1
52.5°	402.9	379.5	357.2	337.9	322.3	307.8	293.2	283.9	274.0	269.3	266.2
55°	367.6	344.7	322.8	305.7	290.1	275.0	265.7	254.7	249.5	245.9	241.7
57.5°	331.2	310.4	293.2	275.5	259.9	247.5	236.0	229.8	224.6	220.4	214.7
60°	296.9	277.1	262.0	245.9	229.8	219.9	211.6	203.8	197.6	190.3	188.2
62.5°	260.5	243.8	230.3	214.7	201.2	192.4	184.6	177.3	169.5	158.0	154.9
65°	227.7	214.2	199.6	186.6	174.2	165.3	153.9	145.6	142.4	141.4	140.9
67.5°	197.6	184.6	172.1	158.6	147.1	137.2	130.5	129.5	127.4	126.9	125.3
70°	167.4	155.4	143.0	130.5	119.6	118.0	115.9	113.9	111.3	110.2	109.2
72.5°	140.4	127.9	115.4	106.1	102.9	100.9	98.8	96.7	95.1	94.1	93.6
75°	111.8	100.3	92.0	88.4	85.8	84.2	81.1	79.5	78.5	76.9	76.4
77.5°	85.3	78.0	73.8	71.7	68.6	67.1	65.0	63.4	61.9	61.9	60.8
80°	61.3	58.2	55.6	52.5	51.5	49.4	48.9	47.3	47.8	46.3	46.3
82.5°	44.2	40.0	38.0	36.9	35.9	34.3	33.8	33.3	33.3	32.2	32.2
85°	24.4	23.4	22.4	21.3	21.3	19.8	20.3	19.8	19.8	18.7	18.2
87.5°	9.9	9.4	8.3	8.3	8.3	7.8	7.8	7.3	7.3	7.3	6.8
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: P242410

CATALOG NUMBER: S122RDR-S865D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1496.2	1496.2	1496.2	1496.2
2.5°	1421.9	1422.9	1421.4	1422.4
5°	1338.7	1332.5	1331.4	1329.9
7.5°	1240.4	1239.9	1236.8	1233.2
10°	1146.3	1143.7	1143.2	1139.6
12.5°	1036.1	1015.8	1013.8	1003.4
15°	901.0	897.8	887.4	880.7
17.5°	825.6	815.2	811.5	810.0
20°	753.3	744.0	742.4	741.4
22.5°	703.4	693.5	688.8	685.2
25°	645.2	641.5	639.5	638.4
27.5°	599.4	590.1	589.0	586.4
30°	561.5	558.9	555.2	552.1
32.5°	516.8	514.7	511.6	510.5
35°	486.1	478.8	475.7	471.0
37.5°	452.3	448.1	442.9	445.0
40°	411.7	409.1	408.1	407.6
42.5°	379.5	371.2	368.1	368.1
45°	346.8	340.0	335.3	335.8
47.5°	311.4	311.9	308.8	309.8
50°	287.5	284.4	282.3	282.8
52.5°	264.6	262.0	260.5	263.1
55°	239.1	236.0	235.5	235.0
57.5°	211.6	210.0	207.4	205.9
60°	181.4	177.3	172.1	171.6
62.5°	153.9	153.9	153.9	153.9
65°	139.8	139.3	139.8	140.4
67.5°	125.3	124.3	123.2	123.7
70°	108.1	107.6	107.1	107.1
72.5°	91.5	91.5	91.0	90.5
75°	75.9	74.9	74.9	74.9
77.5°	60.8	60.3	59.8	59.3
80°	45.7	45.2	44.7	44.7
82.5°	32.2	31.7	31.7	31.2
85°	18.7	19.2	18.7	19.8
87.5°	6.8	6.2	6.8	6.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)