

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: P243250

Luminaire Tested: **S122RDR-H865D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243250  
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-H865D927-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

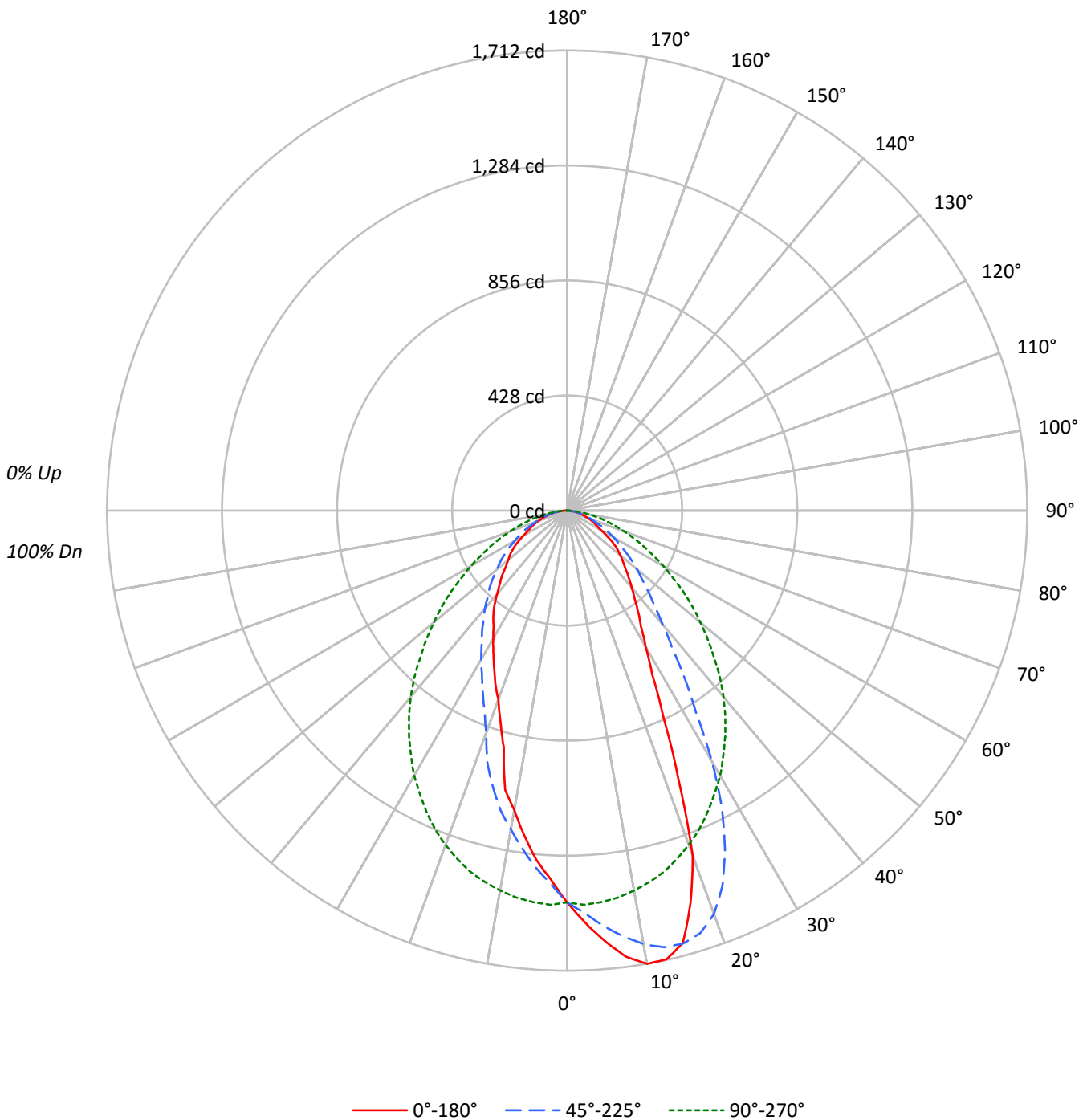
Lumens per Lamp: N/A  
Luminaire Lumens: 2456.5 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	27764	27764	27764
5°	30732	27952	24950
10°	33119	27757	21881
15°	32825	27436	17982
20°	27689	26828	15178
25°	17803	26002	13512
30°	12860	25041	12106
35°	10713	23834	11136
40°	9297	22510	10080
45°	8299	20825	9226
50°	7660	19178	8481
55°	6874	17518	8076
60°	5486	15772	7269
65°	5030	14166	6707
70°	4622	12508	6377
75°	4210	10951	6035
80°	3664	9104	5649
85°	2929	7300	5201



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.0	5.6
10°-20°	377.5	15.4
20°-30°	475.9	19.4
30°-40°	456.8	18.6
40°-50°	393.5	16.0
50°-60°	300.8	12.2
60°-70°	191.4	7.8
70°-80°	97.0	3.9
80°-90°	25.6	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°	991.3	40.4
0°-40°	1448.1	59.0
0°-60°	2142.4	87.2
0°-90°	2456.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2456.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1458	1458	1458	1458	1458	
5°	1607	1551	1462	1334	1305	157
15°	1665	1668	1391	1066	912	451
25°	847	1390	1237	743	643	405
35°	461	763	1025	552	479	290
45°	308	427	773	409	342	240
55°	207	260	528	284	243	183
65°	112	144	314	175	149	111
75°	57	65	149	90	82	61
85°	13	16	33	25	24	15
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°	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6
2.5°	1534.8	1536.7	1537.7	1535.3	1530.1	1530.5	1525.8	1517.7	1507.6	1498.6	1503.8
5°	1607.3	1609.7	1609.2	1604.9	1599.7	1594.9	1586.8	1575.4	1563.4	1551.0	1548.7
7.5°	1674.1	1679.3	1677.9	1669.8	1666.0	1659.3	1645.5	1632.6	1614.5	1596.8	1589.7
10°	1712.3	1716.5	1714.2	1712.3	1708.0	1701.3	1688.9	1676.5	1656.4	1637.8	1627.4
12.5°	1709.4	1713.2	1715.1	1717.0	1715.6	1713.2	1708.0	1697.5	1681.2	1664.1	1650.7
15°	1664.6	1658.4	1654.1	1666.0	1670.3	1686.5	1690.3	1691.7	1680.8	1667.9	1664.6
17.5°	1528.1	1530.1	1563.0	1557.7	1564.9	1604.5	1620.2	1641.7	1650.7	1647.9	1653.6
20°	1366.0	1343.6	1359.8	1383.6	1406.0	1463.8	1501.9	1535.8	1574.9	1596.8	1617.8
22.5°	1083.6	1084.1	1123.2	1162.3	1212.9	1275.4	1333.6	1398.4	1468.1	1510.5	1559.6
25°	847.1	870.0	887.1	904.3	977.7	1037.8	1134.7	1213.4	1309.2	1389.8	1472.3
27.5°	684.9	708.7	711.6	750.2	793.6	842.3	905.7	1029.7	1128.0	1246.3	1348.3
30°	584.7	589.5	599.5	609.5	641.5	686.8	755.0	832.8	942.0	1077.0	1213.8
32.5°	512.2	511.3	521.3	537.0	554.7	585.2	623.9	688.2	787.0	894.3	1054.1
35°	460.7	459.3	466.5	472.2	482.7	507.5	542.3	584.7	655.8	762.6	886.7
37.5°	412.1	414.9	419.2	425.4	439.3	455.0	478.4	513.7	570.0	640.5	759.3
40°	373.9	377.3	382.0	386.3	396.8	409.7	425.4	453.6	491.3	552.8	643.9
42.5°	339.6	341.0	344.8	351.0	358.7	370.1	385.4	406.8	438.3	481.2	560.9
45°	308.1	308.1	312.4	318.1	322.9	333.9	345.8	366.3	390.6	427.3	484.1
47.5°	281.4	281.9	284.3	285.2	290.5	300.5	313.4	329.6	349.6	377.7	430.7
50°	258.5	260.4	261.4	262.8	264.7	270.0	279.0	291.4	313.4	338.2	373.5
52.5°	234.7	237.0	239.0	241.8	244.7	245.2	251.8	259.9	275.2	301.0	329.6
55°	207.0	208.9	212.7	215.1	218.9	222.3	227.5	233.2	243.2	260.4	290.0
57.5°	175.5	176.0	179.8	182.2	189.8	197.5	202.2	208.4	215.6	227.5	249.9
60°	144.0	145.5	145.9	147.9	154.5	162.6	172.2	181.7	189.3	199.8	215.6
62.5°	126.9	127.3	128.8	130.7	131.2	135.0	137.8	149.3	162.6	173.1	183.6
65°	111.6	112.1	112.1	113.5	115.4	117.3	118.8	123.1	128.8	143.6	156.4
67.5°	97.3	96.8	97.8	99.2	99.7	101.1	103.5	105.9	109.7	114.0	127.3
70°	83.0	83.0	82.5	83.9	85.4	85.9	87.3	89.7	92.1	95.9	100.2
72.5°	68.7	69.6	69.6	70.6	71.1	73.0	73.9	74.9	78.2	80.1	83.5
75°	57.2	56.8	58.2	57.7	58.7	59.1	60.6	62.0	63.0	64.9	67.7
77.5°	45.8	44.8	45.8	45.3	46.3	47.2	47.2	48.6	49.6	51.5	52.9
80°	33.4	33.4	33.9	34.8	34.8	35.3	36.2	35.8	37.7	38.2	39.6
82.5°	22.9	23.4	23.4	23.8	23.8	23.8	24.8	24.8	25.3	26.2	26.7
85°	13.4	12.9	13.4	13.4	13.4	13.8	14.3	13.8	14.8	15.7	15.7
87.5°	3.8	3.8	4.3	4.8	4.8	5.2	5.2	5.2	5.7	5.7	6.2
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°	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6
2.5°	1503.8	1501.4	1495.2	1489.5	1479.0	1470.4	1467.6	1468.1	1455.2	1441.8	1438.0
5°	1545.3	1536.7	1524.3	1511.5	1495.7	1480.0	1470.0	1461.9	1441.8	1421.8	1410.3
7.5°	1579.7	1565.8	1547.7	1527.2	1506.7	1483.3	1467.1	1451.8	1424.2	1397.0	1382.2
10°	1611.1	1591.6	1566.8	1540.1	1512.9	1482.4	1459.0	1435.1	1400.3	1369.8	1344.5
12.5°	1641.2	1610.2	1584.9	1546.3	1516.2	1474.7	1442.8	1415.1	1374.1	1335.9	1307.8
15°	1644.0	1622.1	1588.2	1548.2	1502.4	1463.8	1423.7	1391.3	1344.5	1302.1	1253.9
17.5°	1643.6	1626.4	1591.1	1550.1	1495.2	1444.7	1401.3	1358.8	1305.4	1255.8	1214.3
20°	1626.4	1614.5	1584.0	1535.3	1480.0	1421.8	1373.6	1323.5	1261.1	1210.0	1164.7
22.5°	1585.9	1588.7	1564.9	1521.5	1461.9	1397.0	1341.2	1283.5	1219.6	1160.9	1103.7
25°	1517.2	1547.7	1540.5	1500.0	1436.6	1365.5	1302.1	1237.2	1168.5	1106.0	1053.1
27.5°	1431.8	1489.0	1501.4	1470.0	1409.4	1329.7	1257.7	1187.1	1117.0	1049.8	995.4
30°	1330.7	1416.1	1447.5	1430.4	1374.6	1291.1	1207.6	1138.5	1061.7	990.1	932.9
32.5°	1203.3	1323.1	1378.4	1383.6	1337.8	1248.2	1155.7	1081.2	1002.5	934.8	873.3
35°	1061.2	1208.1	1298.3	1322.6	1289.7	1201.0	1103.7	1025.0	941.0	872.8	810.8
37.5°	918.1	1090.8	1209.1	1256.3	1234.3	1148.5	1045.5	965.8	882.8	813.2	755.0
40°	786.5	950.6	1104.1	1178.1	1171.4	1091.7	987.8	905.3	820.8	756.4	692.5
42.5°	668.7	827.0	995.9	1095.1	1100.3	1030.7	924.3	841.3	760.3	696.3	629.6
45°	575.7	714.9	882.4	1000.6	1023.5	966.3	858.5	773.1	699.2	639.1	572.3
47.5°	501.3	609.5	765.0	903.8	944.4	894.3	791.3	710.2	640.5	589.0	526.1
50°	436.9	538.5	670.6	798.9	858.5	820.8	724.5	647.2	584.3	534.7	479.3
52.5°	379.7	458.3	572.8	695.9	776.0	741.7	659.6	588.6	529.4	483.2	436.9
55°	332.4	398.3	499.4	609.1	683.0	663.9	590.9	527.5	475.5	431.6	394.0
57.5°	283.8	339.1	420.7	518.4	590.9	588.1	528.0	466.9	425.9	384.4	357.2
60°	241.3	286.2	352.5	435.5	508.4	508.9	462.2	414.0	378.7	342.9	317.2
62.5°	203.7	239.4	297.1	363.9	422.1	436.9	402.1	360.1	331.5	303.8	281.9
65°	171.2	197.9	241.3	301.9	347.7	367.7	344.8	314.3	290.5	265.7	246.1
67.5°	141.2	160.7	192.7	240.4	286.2	301.0	291.4	268.0	250.9	230.4	215.6
70°	111.1	127.8	150.2	186.0	223.7	244.2	241.3	224.6	210.3	195.5	181.7
72.5°	88.2	97.8	114.9	140.7	170.7	193.6	194.6	186.0	174.1	161.7	152.6
75°	71.1	75.4	83.5	103.5	127.3	146.4	153.1	148.8	139.3	131.6	125.4
77.5°	54.8	58.7	63.9	73.5	92.1	106.8	114.9	115.4	109.7	103.0	98.3
80°	41.0	42.4	46.3	51.0	60.6	73.5	83.0	83.0	79.7	76.3	73.5
82.5°	28.1	29.6	31.5	33.9	38.6	46.3	54.8	56.3	54.4	53.4	49.6
85°	15.7	17.2	18.1	19.6	21.5	25.3	31.5	33.4	33.9	31.0	29.1
87.5°	6.2	6.2	6.7	7.2	7.6	9.1	11.4	14.3	14.3	12.9	12.4
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°	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6	1457.6
2.5°	1433.2	1426.6	1418.0	1410.3	1399.8	1389.4	1387.4	1391.3	1392.2	1387.4	1388.9
5°	1399.4	1387.0	1376.5	1359.3	1348.3	1334.0	1324.5	1324.5	1324.5	1317.3	1310.7
7.5°	1364.1	1347.4	1327.4	1311.1	1288.7	1270.1	1261.1	1256.8	1248.2	1241.0	1232.9
10°	1323.1	1299.7	1274.9	1249.6	1230.1	1204.3	1189.0	1179.5	1164.7	1158.5	1146.6
12.5°	1274.9	1251.5	1221.5	1180.5	1174.7	1143.2	1121.8	1104.1	1086.0	1071.2	1066.0
15°	1236.3	1195.7	1155.7	1126.6	1084.1	1065.5	1034.0	1031.2	1016.4	973.0	939.1
17.5°	1173.8	1137.5	1093.2	1060.7	1026.9	985.4	952.0	919.1	887.6	857.1	856.1
20°	1118.4	1076.0	1034.0	998.7	939.6	880.5	859.9	829.9	811.3	787.0	779.8
22.5°	1057.9	1013.5	961.1	909.5	840.4	803.2	780.8	756.9	738.3	727.3	716.4
25°	996.8	952.5	882.8	819.4	772.2	743.1	724.0	698.3	684.9	675.4	661.1
27.5°	937.2	880.9	807.5	756.9	718.8	685.9	668.7	647.7	632.9	620.5	611.5
30°	878.1	800.8	738.3	699.2	660.1	639.6	617.2	601.4	590.5	579.0	564.2
32.5°	813.2	732.1	691.6	643.4	620.5	590.9	574.7	558.5	544.2	536.1	530.8
35°	737.8	672.5	636.3	601.0	571.9	552.3	529.4	519.4	511.8	496.0	489.4
37.5°	673.9	626.7	588.6	557.1	530.4	509.4	498.9	481.7	470.7	465.5	458.3
40°	621.0	579.0	546.1	514.2	491.7	476.5	457.9	448.8	434.5	429.3	423.5
42.5°	575.2	536.6	502.2	477.9	458.3	437.4	427.8	412.6	406.4	393.5	388.7
45°	528.9	494.6	464.5	440.7	422.1	409.2	392.1	382.5	371.5	364.9	352.0
47.5°	482.7	452.1	427.3	407.3	391.1	375.4	361.1	352.9	339.1	332.0	325.3
50°	446.9	417.3	394.0	373.9	357.2	341.5	332.4	319.1	306.7	298.6	296.2
52.5°	404.5	378.7	357.2	342.0	325.3	313.8	301.4	286.6	280.4	272.3	270.4
55°	366.8	345.8	327.7	311.4	297.1	284.3	270.0	259.5	254.7	250.9	248.0
57.5°	331.5	311.4	294.8	280.0	267.6	254.2	242.3	236.1	231.8	227.5	224.6
60°	296.7	278.5	263.3	250.9	238.0	225.1	216.5	211.3	208.0	201.7	199.8
62.5°	265.7	249.0	233.2	221.8	209.9	199.8	192.7	185.5	180.3	175.5	165.5
65°	231.8	217.0	205.1	193.6	182.2	174.6	166.5	158.3	151.7	151.7	151.7
67.5°	201.7	188.9	176.5	166.5	156.4	147.4	139.3	138.8	136.4	135.5	134.0
70°	171.2	162.2	150.7	139.7	129.7	125.4	124.0	121.6	118.8	118.3	116.4
72.5°	143.6	133.1	122.6	113.0	111.1	109.2	106.4	104.0	102.1	100.6	99.7
75°	117.3	106.8	98.3	95.9	93.5	90.1	87.8	85.9	84.9	84.9	84.4
77.5°	89.7	83.5	79.7	75.8	73.9	72.0	70.6	69.6	68.2	68.7	67.7
80°	65.8	63.9	60.6	58.2	57.2	55.3	54.4	53.9	52.9	52.9	52.5
82.5°	47.2	43.9	42.4	41.0	40.1	39.1	39.6	39.1	38.6	38.2	38.6
85°	27.2	26.7	25.8	25.8	25.8	25.3	25.3	25.3	24.8	24.3	24.3
87.5°	11.9	12.4	12.4	11.4	12.9	12.9	12.4	12.4	11.9	12.9	11.9
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: P243250

CATALOG NUMBER: S122RDR-H865D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1457.6	1457.6	1457.6	1457.6
2.5°	1382.7	1382.2	1379.3	1374.6
5°	1307.8	1305.9	1301.1	1304.9
7.5°	1227.7	1222.4	1217.7	1220.0
10°	1141.8	1139.9	1137.0	1131.3
12.5°	1046.9	1054.5	1046.4	1064.6
15°	906.2	940.1	897.6	911.9
17.5°	836.1	836.6	830.8	824.2
20°	770.3	753.6	759.8	748.8
22.5°	706.8	703.0	701.1	697.3
25°	650.1	642.9	640.5	642.9
27.5°	608.1	604.8	595.7	594.3
30°	555.6	554.2	551.4	550.4
32.5°	522.7	516.5	515.1	509.4
35°	486.0	482.7	480.3	478.9
37.5°	449.3	447.4	443.1	445.5
40°	419.2	409.7	405.9	405.4
42.5°	386.3	381.1	373.5	371.1
45°	348.2	345.8	343.4	342.5
47.5°	314.8	313.4	310.5	309.1
50°	290.9	287.1	286.6	286.2
52.5°	268.0	266.6	265.2	267.1
55°	246.6	244.7	243.2	243.2
57.5°	223.2	219.9	217.0	217.5
60°	196.0	194.1	191.7	190.8
62.5°	164.5	164.5	164.1	164.1
65°	149.8	148.8	148.3	148.8
67.5°	133.5	132.6	131.2	131.6
70°	114.9	114.5	114.9	114.5
72.5°	98.3	97.8	98.3	99.2
75°	83.0	82.5	82.0	82.0
77.5°	67.2	66.8	65.8	66.8
80°	52.5	52.0	51.5	51.5
82.5°	37.2	37.7	37.2	37.2
85°	24.3	24.8	24.3	23.8
87.5°	12.4	12.9	11.9	11.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)