

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: P243270

Luminaire Tested: **S122RDR-H865D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243270
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-H865D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2528.1 lumens
Efficiency: N/A
Efficacy: 80.3 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

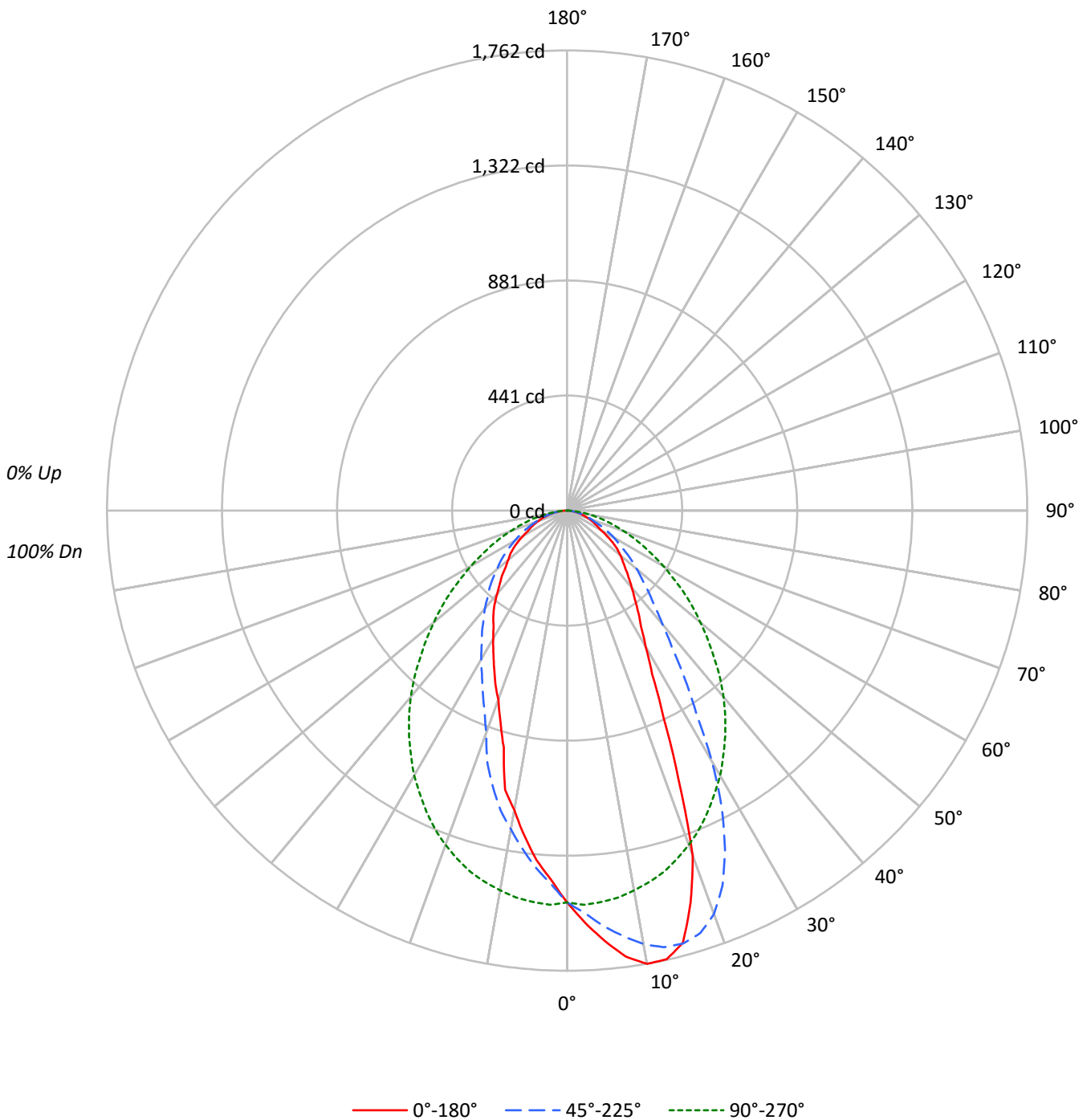
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100		
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87	87	87	87		
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76	76	76	76	76	76	76		
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66	66	66	66	66	66	66		
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58	58	58	58	58	58	58		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52	52	52	52	52	52		
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47	47	47	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42	42	42	42		
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38	38	38	38		
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35	35	35	35		
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33	33	33	33	33	33	33		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	28573	28573	28573
5°	31629	28767	25679
10°	34084	28567	22519
15°	33782	28237	18507
20°	28496	27612	15622
25°	18322	26761	13907
30°	13236	25771	12460
35°	11027	24530	11459
40°	9568	23167	10374
45°	8542	21434	9493
50°	7885	19739	8727
55°	7073	18029	8312
60°	5646	16232	7478
65°	5179	14580	6905
70°	4756	12876	6560
75°	4335	11275	6211
80°	3773	9368	5814
85°	2994	7518	5354



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.0	5.6
10°-20°	388.5	15.4
20°-30°	489.7	19.4
30°-40°	470.1	18.6
40°-50°	404.9	16.0
50°-60°	309.6	12.2
60°-70°	197.0	7.8
70°-80°	99.8	3.9
80°-90°	26.4	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°	1020.3	40.4
0°-40°	1490.4	59.0
0°-60°	2204.9	87.2
0°-90°	2528.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2528.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1500	1500	1500	1500	1500	
5°	1654	1596	1504	1373	1343	161
15°	1713	1717	1432	1097	938	465
25°	872	1430	1273	765	662	417
35°	474	785	1055	568	493	299
45°	317	440	796	421	352	247
55°	213	268	543	293	250	188
65°	115	148	324	180	153	114
75°	59	67	153	93	84	62
85°	14	16	34	26	24	16
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°	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1
2.5°	1579.6	1581.6	1582.6	1580.1	1574.7	1575.2	1570.3	1561.9	1551.6	1542.3	1547.7
5°	1654.2	1656.7	1656.2	1651.8	1646.4	1641.5	1633.1	1621.3	1609.1	1596.3	1593.8
7.5°	1722.9	1728.3	1726.9	1718.5	1714.6	1707.7	1693.5	1680.2	1661.6	1643.4	1636.1
10°	1762.2	1766.6	1764.2	1762.2	1757.8	1750.9	1738.2	1725.4	1704.8	1685.6	1674.8
12.5°	1759.3	1763.2	1765.2	1767.1	1765.7	1763.2	1757.8	1747.0	1730.3	1712.6	1698.9
15°	1713.1	1706.7	1702.3	1714.6	1719.0	1735.7	1739.6	1741.1	1729.8	1716.6	1713.1
17.5°	1572.7	1574.7	1608.6	1603.2	1610.5	1651.3	1667.5	1689.6	1698.9	1696.0	1701.8
20°	1405.8	1382.8	1399.5	1424.0	1447.1	1506.5	1545.7	1580.6	1620.8	1643.4	1665.0
22.5°	1115.3	1115.7	1156.0	1196.2	1248.3	1312.6	1372.5	1439.2	1510.9	1554.6	1605.1
25°	871.8	895.3	913.0	930.7	1006.3	1068.1	1167.8	1248.8	1347.4	1430.4	1515.3
27.5°	704.9	729.4	732.4	772.1	816.8	866.9	932.2	1059.8	1160.9	1282.6	1387.7
30°	601.8	606.7	617.0	627.3	660.2	706.9	777.0	857.1	969.5	1108.4	1249.3
32.5°	527.2	526.2	536.5	552.7	570.9	602.3	642.1	708.3	809.9	920.4	1084.8
35°	474.2	472.7	480.1	486.0	496.8	522.3	558.1	601.8	674.9	784.9	912.5
37.5°	424.1	427.1	431.5	437.9	452.1	468.3	492.3	528.7	586.6	659.2	781.5
40°	384.8	388.3	393.2	397.6	408.4	421.7	437.9	466.8	505.6	568.9	662.7
42.5°	349.5	351.0	354.9	361.3	369.1	380.9	396.6	418.7	451.1	495.3	577.3
45°	317.1	317.1	321.5	327.4	332.3	343.6	355.9	377.0	402.0	439.8	498.2
47.5°	289.6	290.1	292.6	293.5	298.9	309.2	322.5	339.2	359.8	388.8	443.3
50°	266.1	268.0	269.0	270.5	272.4	277.8	287.2	299.9	322.5	348.0	384.3
52.5°	241.5	244.0	245.9	248.9	251.8	252.3	259.2	267.5	283.2	309.7	339.2
55°	213.0	215.0	218.9	221.4	225.3	228.7	234.1	240.0	250.3	268.0	298.4
57.5°	180.6	181.1	185.1	187.5	195.4	203.2	208.1	214.5	221.9	234.1	257.2
60°	148.2	149.7	150.2	152.2	159.0	167.4	177.2	187.0	194.9	205.7	221.9
62.5°	130.6	131.1	132.5	134.5	135.0	138.9	141.9	153.6	167.4	178.2	189.0
65°	114.9	115.4	115.4	116.8	118.8	120.8	122.2	126.6	132.5	147.8	161.0
67.5°	100.1	99.6	100.6	102.1	102.6	104.1	106.5	109.0	112.9	117.3	131.1
70°	85.4	85.4	84.9	86.4	87.9	88.4	89.8	92.3	94.7	98.7	103.1
72.5°	70.7	71.7	71.7	72.6	73.1	75.1	76.1	77.1	80.5	82.5	85.9
75°	58.9	58.4	59.9	59.4	60.4	60.9	62.3	63.8	64.8	66.8	69.7
77.5°	47.1	46.1	47.1	46.6	47.6	48.6	48.6	50.1	51.1	53.0	54.5
80°	34.4	34.4	34.9	35.8	35.8	36.3	37.3	36.8	38.8	39.3	40.7
82.5°	23.6	24.1	24.1	24.5	24.5	24.5	25.5	25.5	26.0	27.0	27.5
85°	13.7	13.3	13.7	13.7	13.7	14.2	14.7	14.2	15.2	16.2	16.2
87.5°	3.9	3.9	4.4	4.9	4.9	5.4	5.4	5.4	5.9	5.9	6.4
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°	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1
2.5°	1547.7	1545.3	1538.9	1533.0	1522.2	1513.3	1510.4	1510.9	1497.6	1483.9	1480.0
5°	1590.4	1581.6	1568.8	1555.6	1539.4	1523.2	1512.9	1504.5	1483.9	1463.3	1451.5
7.5°	1625.8	1611.5	1592.9	1571.8	1550.7	1526.6	1509.9	1494.2	1465.7	1437.8	1422.5
10°	1658.2	1638.0	1612.5	1585.0	1557.0	1525.6	1501.6	1477.0	1441.2	1409.8	1383.8
12.5°	1689.1	1657.2	1631.2	1591.4	1560.5	1517.8	1484.9	1456.4	1414.2	1374.9	1346.0
15°	1692.0	1669.4	1634.6	1593.4	1546.2	1506.5	1465.2	1431.9	1383.8	1340.1	1290.5
17.5°	1691.5	1673.9	1637.5	1595.3	1538.9	1486.8	1442.2	1398.5	1343.5	1292.5	1249.8
20°	1673.9	1661.6	1630.2	1580.1	1523.2	1463.3	1413.7	1362.2	1297.9	1245.3	1198.7
22.5°	1632.1	1635.1	1610.5	1565.9	1504.5	1437.8	1380.3	1320.9	1255.2	1194.8	1135.9
25°	1561.5	1592.9	1585.5	1543.8	1478.5	1405.4	1340.1	1273.3	1202.6	1138.3	1083.8
27.5°	1473.6	1532.5	1545.3	1512.9	1450.5	1368.5	1294.4	1221.8	1149.6	1080.4	1024.4
30°	1369.5	1457.4	1489.8	1472.1	1414.7	1328.8	1242.9	1171.7	1092.7	1019.0	960.1
32.5°	1238.5	1361.7	1418.6	1424.0	1376.9	1284.6	1189.4	1112.8	1031.8	962.1	898.8
35°	1092.2	1243.4	1336.1	1361.2	1327.3	1236.0	1135.9	1054.9	968.5	898.3	834.5
37.5°	944.9	1122.6	1244.4	1292.9	1270.4	1182.0	1076.0	994.0	908.6	836.9	777.0
40°	809.4	978.3	1136.4	1212.4	1205.6	1123.6	1016.6	931.7	844.8	778.5	712.7
42.5°	688.2	851.2	1024.9	1127.0	1132.4	1060.8	951.3	865.9	782.4	716.7	647.9
45°	592.5	735.8	908.1	1029.8	1053.4	994.5	883.6	795.7	719.6	657.8	589.0
47.5°	515.9	627.3	787.4	930.2	971.9	920.4	814.4	730.9	659.2	606.2	541.4
50°	449.6	554.2	690.2	822.2	883.6	844.8	745.6	666.1	601.3	550.3	493.3
52.5°	390.7	471.7	589.5	716.2	798.6	763.3	678.9	605.7	544.9	497.2	449.6
55°	342.1	409.9	513.9	626.8	702.9	683.3	608.2	542.9	489.4	444.2	405.5
57.5°	292.1	349.0	432.9	533.6	608.2	605.2	543.4	480.6	438.3	395.6	367.7
60°	248.4	294.5	362.8	448.2	523.3	523.8	475.7	426.1	389.7	352.9	326.4
62.5°	209.6	246.4	305.8	374.5	434.4	449.6	413.8	370.6	341.2	312.7	290.1
65°	176.2	203.7	248.4	310.7	357.8	378.5	354.9	323.5	298.9	273.4	253.3
67.5°	145.3	165.4	198.3	247.4	294.5	309.7	299.9	275.9	258.2	237.1	221.9
70°	114.4	131.6	154.6	191.4	230.2	251.3	248.4	231.2	216.5	201.3	187.0
72.5°	90.8	100.6	118.3	144.8	175.7	199.3	200.3	191.4	179.2	166.4	157.1
75°	73.1	77.6	85.9	106.5	131.1	150.7	157.6	153.2	143.3	135.5	129.1
77.5°	56.4	60.4	65.8	75.6	94.7	110.0	118.3	118.8	112.9	106.0	101.1
80°	42.2	43.7	47.6	52.5	62.3	75.6	85.4	85.4	82.0	78.5	75.6
82.5°	29.0	30.4	32.4	34.9	39.8	47.6	56.4	57.9	56.0	55.0	51.1
85°	16.2	17.7	18.7	20.1	22.1	26.0	32.4	34.4	34.9	31.9	29.9
87.5°	6.4	6.4	6.9	7.4	7.9	9.3	11.8	14.7	14.7	13.3	12.8
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°	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1	1500.1
2.5°	1475.1	1468.2	1459.4	1451.5	1440.7	1429.9	1427.9	1431.9	1432.8	1427.9	1429.4
5°	1440.2	1427.4	1416.6	1399.0	1387.7	1373.0	1363.1	1363.1	1363.1	1355.8	1348.9
7.5°	1403.9	1386.7	1366.1	1349.4	1326.3	1307.2	1297.9	1293.4	1284.6	1277.2	1268.9
10°	1361.7	1337.6	1312.1	1286.1	1265.9	1239.4	1223.7	1213.9	1198.7	1192.3	1180.0
12.5°	1312.1	1288.0	1257.1	1214.9	1209.0	1176.6	1154.5	1136.4	1117.7	1102.5	1097.1
15°	1272.3	1230.6	1189.4	1159.4	1115.7	1096.6	1064.2	1061.3	1046.0	1001.4	966.5
17.5°	1208.0	1170.7	1125.1	1091.7	1056.8	1014.1	979.8	945.9	913.5	882.1	881.1
20°	1151.1	1107.4	1064.2	1027.9	967.0	906.1	885.0	854.1	835.0	809.9	802.6
22.5°	1088.7	1043.1	989.1	936.1	864.9	826.6	803.6	779.0	759.9	748.6	737.3
25°	1025.9	980.3	908.6	843.3	794.7	764.8	745.1	718.6	704.9	695.1	680.3
27.5°	964.6	906.6	831.0	779.0	739.7	705.9	688.2	666.6	651.4	638.6	629.3
30°	903.7	824.2	759.9	719.6	679.4	658.3	635.2	619.0	607.7	595.9	580.7
32.5°	836.9	753.5	711.8	662.2	638.6	608.2	591.5	574.8	560.1	551.7	546.3
35°	759.4	692.1	654.8	618.5	588.6	568.4	544.9	534.6	526.7	510.5	503.6
37.5°	693.6	645.0	605.7	573.3	545.8	524.2	513.4	495.8	484.5	479.1	471.7
40°	639.1	595.9	562.0	529.2	506.1	490.4	471.2	461.9	447.2	441.8	435.9
42.5°	592.0	552.2	516.9	491.9	471.7	450.1	440.3	424.6	418.2	405.0	400.1
45°	544.4	509.0	478.1	453.6	434.4	421.2	403.5	393.7	382.4	375.5	362.3
47.5°	496.8	465.3	439.8	419.2	402.5	386.3	371.6	363.2	349.0	341.6	334.8
50°	459.9	429.5	405.5	384.8	367.7	351.5	342.1	328.4	315.6	307.3	304.8
52.5°	416.3	389.7	367.7	352.0	334.8	323.0	310.2	295.0	288.6	280.3	278.3
55°	377.5	355.9	337.2	320.5	305.8	292.6	277.8	267.0	262.1	258.2	255.3
57.5°	341.2	320.5	303.4	288.1	275.4	261.6	249.4	243.0	238.6	234.1	231.2
60°	305.3	286.7	271.0	258.2	244.9	231.7	222.9	217.5	214.0	207.6	205.7
62.5°	273.4	256.2	240.0	228.3	216.0	205.7	198.3	190.9	185.5	180.6	170.3
65°	238.6	223.3	211.1	199.3	187.5	179.7	171.3	163.0	156.1	156.1	156.1
67.5°	207.6	194.4	181.6	171.3	161.0	151.7	143.3	142.8	140.4	139.4	137.9
70°	176.2	166.9	155.1	143.8	133.5	129.1	127.6	125.2	122.2	121.7	119.8
72.5°	147.8	137.0	126.2	116.3	114.4	112.4	109.5	107.0	105.0	103.6	102.6
75°	120.8	110.0	101.1	98.7	96.2	92.8	90.3	88.4	87.4	87.4	86.9
77.5°	92.3	85.9	82.0	78.0	76.1	74.1	72.6	71.7	70.2	70.7	69.7
80°	67.7	65.8	62.3	59.9	58.9	56.9	56.0	55.5	54.5	54.5	54.0
82.5°	48.6	45.2	43.7	42.2	41.2	40.3	40.7	40.3	39.8	39.3	39.8
85°	28.0	27.5	26.5	26.5	26.5	26.0	26.0	26.0	25.5	25.0	25.0
87.5°	12.3	12.8	12.8	11.8	13.3	13.3	12.8	12.8	12.3	13.3	12.3
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: P243270

CATALOG NUMBER: S122RDR-H865D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1500.1	1500.1	1500.1	1500.1
2.5°	1423.0	1422.5	1419.6	1414.7
5°	1346.0	1344.0	1339.1	1343.0
7.5°	1263.5	1258.1	1253.2	1255.6
10°	1175.1	1173.2	1170.2	1164.3
12.5°	1077.5	1085.3	1077.0	1095.6
15°	932.6	967.5	923.8	938.5
17.5°	860.5	861.0	855.1	848.2
20°	792.8	775.6	782.0	770.7
22.5°	727.5	723.5	721.6	717.6
25°	669.1	661.7	659.2	661.7
27.5°	625.9	622.4	613.1	611.6
30°	571.9	570.4	567.4	566.5
32.5°	538.0	531.6	530.1	524.2
35°	500.2	496.8	494.3	492.8
37.5°	462.4	460.4	456.0	458.5
40°	431.5	421.7	417.7	417.2
42.5°	397.6	392.2	384.3	381.9
45°	358.3	355.9	353.4	352.4
47.5°	324.0	322.5	319.6	318.1
50°	299.4	295.5	295.0	294.5
52.5°	275.9	274.4	272.9	274.9
55°	253.8	251.8	250.3	250.3
57.5°	229.7	226.3	223.3	223.8
60°	201.7	199.8	197.3	196.3
62.5°	169.3	169.3	168.9	168.9
65°	154.1	153.2	152.7	153.2
67.5°	137.4	136.5	135.0	135.5
70°	118.3	117.8	118.3	117.8
72.5°	101.1	100.6	101.1	102.1
75°	85.4	84.9	84.4	84.4
77.5°	69.2	68.7	67.7	68.7
80°	54.0	53.5	53.0	53.0
82.5°	38.3	38.8	38.3	38.3
85°	25.0	25.5	25.0	24.5
87.5°	12.8	13.3	12.3	11.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)