

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: P243249

Luminaire Tested: **S122RDR-H675D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243249  
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-H675D927-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**

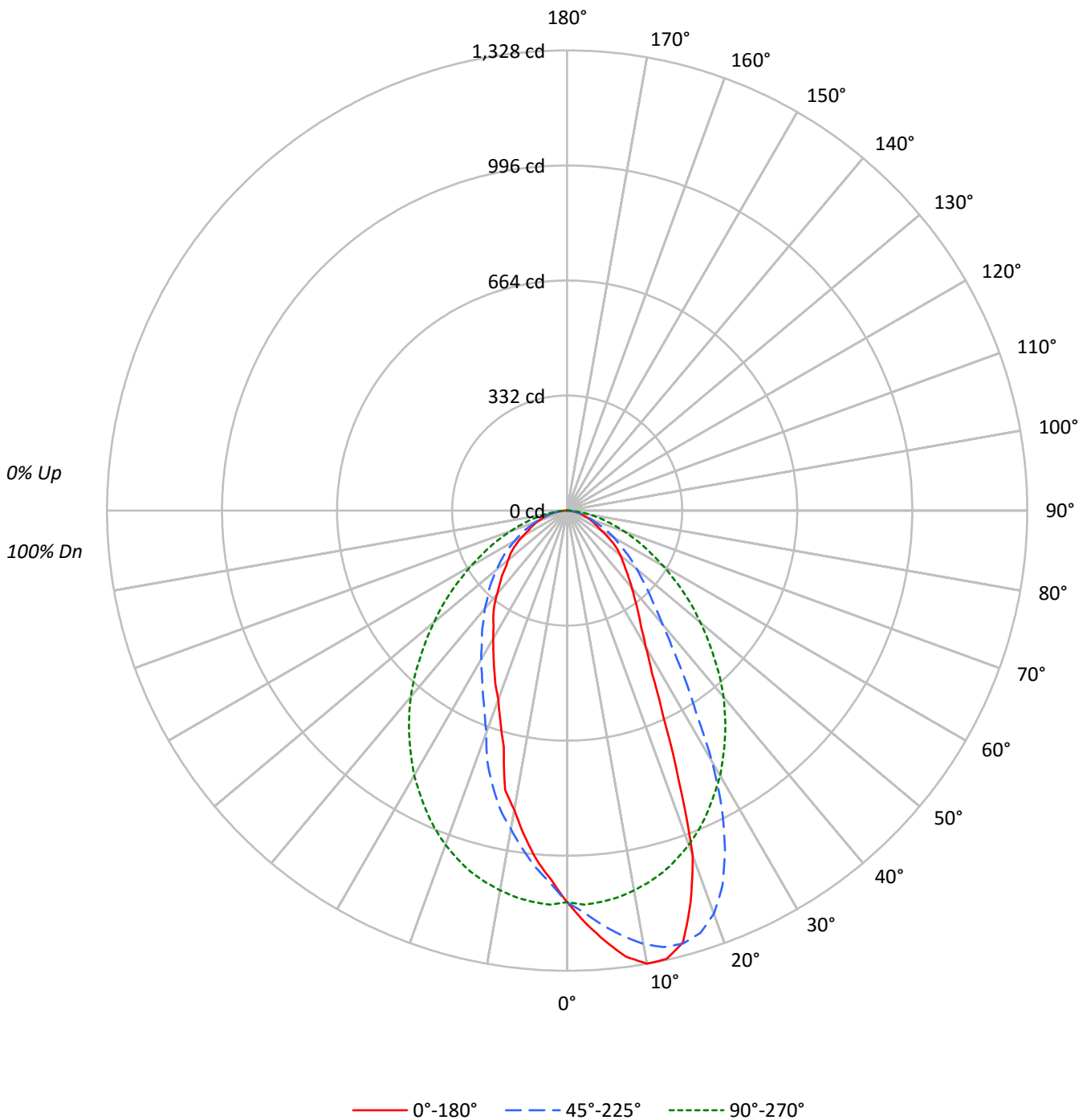
Lumens per Lamp: N/A  
Luminaire Lumens: 1904.8 lumens  
Efficiency: N/A  
Efficacy: 80.7 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
Input Voltage (V): 120  
Input Current (A<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°	21528	21528	21528
5°	23830	21673	19348
10°	25680	21523	16968
15°	25452	21274	13944
20°	21470	20803	11769
25°	13804	20164	10477
30°	9972	19417	9387
35°	8308	18481	8634
40°	7211	17453	7818
45°	6435	16149	7152
50°	5941	14873	6576
55°	5330	13582	6263
60°	4255	12229	5634
65°	3899	10984	5201
70°	3587	9702	4945
75°	3268	8493	4681
80°	2841	7064	4377
85°	2273	5660	4043



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.0	5.6
10°-20°	292.7	15.4
20°-30°	369.0	19.4
30°-40°	354.2	18.6
40°-50°	305.1	16.0
50°-60°	233.3	12.2
60°-70°	148.4	7.8
70°-80°	75.2	3.9
80°-90°	19.9	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°	768.7	40.4
0°-40°	1122.9	59.0
0°-60°	1661.3	87.2
0°-90°	1904.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1904.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1130	1130	1130	1130	1130	
5°	1246	1203	1134	1034	1012	121
15°	1291	1293	1079	826	707	350
25°	657	1078	959	576	498	314
35°	357	591	795	428	371	225
45°	239	331	600	317	266	186
55°	160	202	409	220	189	142
65°	86	111	244	135	115	86
75°	44	50	115	70	64	47
85°	10	12	26	20	18	12
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°	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2
2.5°	1190.1	1191.6	1192.4	1190.5	1186.4	1186.8	1183.1	1176.8	1169.1	1162.0	1166.1
5°	1246.3	1248.2	1247.8	1244.5	1240.4	1236.7	1230.4	1221.6	1212.3	1202.7	1200.9
7.5°	1298.1	1302.2	1301.1	1294.8	1291.8	1286.7	1275.9	1265.9	1251.9	1238.2	1232.7
10°	1327.7	1331.0	1329.2	1327.7	1324.4	1319.2	1309.6	1300.0	1284.4	1270.0	1261.9
12.5°	1325.5	1328.5	1329.9	1331.4	1330.3	1328.5	1324.4	1316.2	1303.7	1290.4	1280.0
15°	1290.7	1285.9	1282.6	1291.8	1295.2	1307.7	1310.7	1311.8	1303.3	1293.3	1290.7
17.5°	1185.0	1186.4	1212.0	1207.9	1213.4	1244.1	1256.3	1273.0	1280.0	1277.8	1282.2
20°	1059.2	1041.8	1054.4	1072.9	1090.3	1135.0	1164.6	1190.9	1221.2	1238.2	1254.5
22.5°	840.3	840.6	871.0	901.3	940.5	988.9	1034.1	1084.4	1138.4	1171.3	1209.4
25°	656.8	674.6	687.9	701.2	758.2	804.8	879.8	940.9	1015.2	1077.7	1141.7
27.5°	531.1	549.6	551.8	581.8	615.4	653.1	702.3	798.5	874.7	966.4	1045.5
30°	453.4	457.1	464.9	472.7	497.4	532.6	585.5	645.7	730.4	835.1	941.2
32.5°	397.2	396.5	404.2	416.4	430.1	453.8	483.7	533.7	610.2	693.4	817.3
35°	357.3	356.2	361.7	366.1	374.3	393.5	420.5	453.4	508.5	591.4	687.5
37.5°	319.5	321.8	325.1	329.9	340.6	352.8	370.9	398.3	442.0	496.7	588.8
40°	290.0	292.5	296.2	299.6	307.7	317.7	329.9	351.7	380.9	428.6	499.3
42.5°	263.3	264.4	267.4	272.2	278.1	287.0	298.8	315.5	339.9	373.2	434.9
45°	238.9	238.9	242.2	246.7	250.4	258.9	268.1	284.0	302.9	331.4	375.4
47.5°	218.2	218.6	220.4	221.2	225.2	233.0	243.0	255.6	271.1	292.9	334.0
50°	200.5	201.9	202.7	203.8	205.3	209.3	216.4	226.0	243.0	262.2	289.6
52.5°	182.0	183.8	185.3	187.5	189.7	190.1	195.3	201.6	213.4	233.4	255.6
55°	160.5	162.0	164.9	166.8	169.8	172.3	176.4	180.8	188.6	201.9	224.9
57.5°	136.1	136.5	139.4	141.3	147.2	153.1	156.8	161.6	167.2	176.4	193.8
60°	111.7	112.8	113.2	114.6	119.8	126.1	133.5	140.9	146.8	155.0	167.2
62.5°	98.4	98.7	99.9	101.3	101.7	104.7	106.9	115.8	126.1	134.3	142.4
65°	86.5	86.9	86.9	88.0	89.5	91.0	92.1	95.4	99.9	111.3	121.3
67.5°	75.4	75.1	75.8	76.9	77.3	78.4	80.3	82.1	85.1	88.4	98.7
70°	64.4	64.4	64.0	65.1	66.2	66.6	67.7	69.5	71.4	74.3	77.7
72.5°	53.3	54.0	54.0	54.7	55.1	56.6	57.3	58.1	60.7	62.1	64.7
75°	44.4	44.0	45.1	44.8	45.5	45.9	47.0	48.1	48.8	50.3	52.5
77.5°	35.5	34.8	35.5	35.1	35.9	36.6	36.6	37.7	38.5	39.9	41.1
80°	25.9	25.9	26.3	27.0	27.0	27.4	28.1	27.7	29.2	29.6	30.7
82.5°	17.8	18.1	18.1	18.5	18.5	18.5	19.2	19.2	19.6	20.3	20.7
85°	10.4	10.0	10.4	10.4	10.4	10.7	11.1	10.7	11.5	12.2	12.2
87.5°	3.0	3.0	3.3	3.7	3.7	4.1	4.1	4.1	4.4	4.4	4.8
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°	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2
2.5°	1166.1	1164.2	1159.4	1155.0	1146.9	1140.2	1138.0	1138.4	1128.4	1118.0	1115.1
5°	1198.3	1191.6	1182.0	1172.0	1159.8	1147.6	1139.8	1133.5	1118.0	1102.5	1093.6
7.5°	1224.9	1214.2	1200.1	1184.2	1168.3	1150.2	1137.6	1125.8	1104.3	1083.2	1071.8
10°	1249.3	1234.1	1214.9	1194.2	1173.1	1149.4	1131.3	1112.8	1085.8	1062.2	1042.6
12.5°	1272.6	1248.6	1229.0	1199.0	1175.7	1143.5	1118.8	1097.3	1065.5	1035.9	1014.1
15°	1274.8	1257.8	1231.6	1200.5	1165.0	1135.0	1104.0	1078.8	1042.6	1009.7	972.3
17.5°	1274.5	1261.1	1233.8	1202.0	1159.4	1120.2	1086.6	1053.7	1012.2	973.8	941.6
20°	1261.1	1251.9	1228.2	1190.5	1147.6	1102.5	1065.1	1026.3	977.8	938.3	903.1
22.5°	1229.7	1231.9	1213.4	1179.8	1133.5	1083.2	1040.0	995.2	945.7	900.2	855.8
25°	1176.4	1200.1	1194.6	1163.1	1113.9	1058.8	1009.7	959.4	906.1	857.6	816.6
27.5°	1110.2	1154.6	1164.2	1139.8	1092.9	1031.1	975.3	920.5	866.2	814.0	771.8
30°	1031.8	1098.0	1122.5	1109.1	1065.9	1001.1	936.4	882.8	823.3	767.8	723.4
32.5°	933.1	1025.9	1068.8	1072.9	1037.4	967.9	896.1	838.4	777.4	724.9	677.2
35°	822.9	936.8	1006.7	1025.6	1000.0	931.2	855.8	794.8	729.7	676.8	628.7
37.5°	711.9	845.8	937.5	974.1	957.1	890.6	810.7	748.9	684.6	630.6	585.5
40°	609.9	737.1	856.2	913.5	908.3	846.6	765.9	701.9	636.5	586.6	537.0
42.5°	518.5	641.3	772.2	849.1	853.2	799.2	716.7	652.4	589.5	540.0	488.2
45°	446.4	554.4	684.2	775.9	793.7	749.3	665.7	599.5	542.2	495.6	443.8
47.5°	388.7	472.7	593.2	700.8	732.3	693.4	613.6	550.7	496.7	456.7	407.9
50°	338.8	417.5	520.0	619.5	665.7	636.5	561.8	501.9	453.0	414.6	371.7
52.5°	294.4	355.4	444.2	539.6	601.7	575.1	511.5	456.4	410.5	374.6	338.8
55°	257.8	308.8	387.2	472.3	529.6	514.8	458.2	409.0	368.7	334.7	305.5
57.5°	220.1	263.0	326.2	402.0	458.2	456.0	409.4	362.1	330.3	298.1	277.0
60°	187.1	221.9	273.3	337.7	394.2	394.6	358.4	321.0	293.6	265.9	245.9
62.5°	157.9	185.7	230.4	282.2	327.3	338.8	311.8	279.2	257.0	235.6	218.6
65°	132.8	153.5	187.1	234.1	269.6	285.1	267.4	243.7	225.2	206.0	190.8
67.5°	109.5	124.6	149.4	186.4	221.9	233.4	226.0	207.8	194.5	178.6	167.2
70°	86.2	99.1	116.5	144.2	173.5	189.4	187.1	174.2	163.1	151.6	140.9
72.5°	68.4	75.8	89.1	109.1	132.4	150.2	150.9	144.2	135.0	125.4	118.3
75°	55.1	58.4	64.7	80.3	98.7	113.5	118.7	115.4	108.0	102.1	97.3
77.5°	42.5	45.5	49.6	57.0	71.4	82.8	89.1	89.5	85.1	79.9	76.2
80°	31.8	32.9	35.9	39.6	47.0	57.0	64.4	64.4	61.8	59.2	57.0
82.5°	21.8	22.9	24.4	26.3	30.0	35.9	42.5	43.6	42.2	41.4	38.5
85°	12.2	13.3	14.1	15.2	16.6	19.6	24.4	25.9	26.3	24.0	22.6
87.5°	4.8	4.8	5.2	5.5	5.9	7.0	8.9	11.1	11.1	10.0	9.6
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°	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2	1130.2
2.5°	1111.4	1106.2	1099.5	1093.6	1085.5	1077.3	1075.9	1078.8	1079.6	1075.9	1077.0
5°	1085.1	1075.5	1067.3	1054.0	1045.5	1034.4	1027.0	1027.0	1027.0	1021.5	1016.3
7.5°	1057.7	1044.8	1029.3	1016.7	999.3	984.9	977.8	974.5	967.9	962.3	956.0
10°	1025.9	1007.8	988.6	969.0	953.8	933.8	922.0	914.6	903.1	898.3	889.1
12.5°	988.6	970.4	947.1	915.3	910.9	886.5	869.9	856.2	842.1	830.7	826.6
15°	958.6	927.2	896.1	873.6	840.6	826.2	801.8	799.6	788.1	754.5	728.2
17.5°	910.2	882.1	847.7	822.5	796.3	764.1	738.2	712.7	688.3	664.6	663.9
20°	867.3	834.3	801.8	774.4	728.6	682.7	666.8	643.5	629.1	610.2	604.7
22.5°	820.3	785.9	745.2	705.3	651.7	622.8	605.4	586.9	572.5	564.0	555.5
25°	773.0	738.6	684.6	635.4	598.8	576.2	561.4	541.4	531.1	523.7	512.6
27.5°	726.7	683.1	626.1	586.9	557.3	531.8	518.5	502.2	490.8	481.2	474.1
30°	680.9	621.0	572.5	542.2	511.9	495.9	478.6	466.4	457.9	449.0	437.5
32.5°	630.6	567.7	536.3	498.9	481.2	458.2	445.7	433.1	422.0	415.7	411.6
35°	572.1	521.5	493.4	466.0	443.4	428.3	410.5	402.8	396.8	384.6	379.5
37.5°	522.6	486.0	456.4	432.0	411.3	395.0	386.8	373.5	365.0	361.0	355.4
40°	481.5	449.0	423.5	398.7	381.3	369.5	355.0	348.0	336.9	332.9	328.4
42.5°	446.0	416.1	389.4	370.6	355.4	339.1	331.7	319.9	315.1	305.1	301.4
45°	410.1	383.5	360.2	341.7	327.3	317.3	304.0	296.6	288.1	282.9	272.9
47.5°	374.3	350.6	331.4	315.8	303.3	291.1	280.0	273.7	263.0	257.4	252.2
50°	346.5	323.6	305.5	290.0	277.0	264.8	257.8	247.4	237.8	231.5	229.7
52.5°	313.6	293.6	277.0	265.2	252.2	243.4	233.7	222.3	217.5	211.2	209.7
55°	284.4	268.1	254.1	241.5	230.4	220.4	209.3	201.2	197.5	194.5	192.3
57.5°	257.0	241.5	228.6	217.1	207.5	197.1	187.9	183.1	179.7	176.4	174.2
60°	230.0	216.0	204.1	194.5	184.5	174.6	167.9	163.8	161.2	156.4	155.0
62.5°	206.0	193.1	180.8	172.0	162.7	155.0	149.4	143.9	139.8	136.1	128.3
65°	179.7	168.3	159.0	150.2	141.3	135.4	129.1	122.8	117.6	117.6	117.6
67.5°	156.4	146.5	136.8	129.1	121.3	114.3	108.0	107.6	105.8	105.0	103.9
70°	132.8	125.7	116.9	108.4	100.6	97.3	96.2	94.3	92.1	91.7	90.2
72.5°	111.3	103.2	95.0	87.7	86.2	84.7	82.5	80.6	79.1	78.0	77.3
75°	91.0	82.8	76.2	74.3	72.5	69.9	68.0	66.6	65.8	65.8	65.5
77.5°	69.5	64.7	61.8	58.8	57.3	55.8	54.7	54.0	52.9	53.3	52.5
80°	51.0	49.6	47.0	45.1	44.4	42.9	42.2	41.8	41.1	41.1	40.7
82.5°	36.6	34.0	32.9	31.8	31.1	30.3	30.7	30.3	30.0	29.6	30.0
85°	21.1	20.7	20.0	20.0	20.0	19.6	19.6	19.6	19.2	18.9	18.9
87.5°	9.2	9.6	9.6	8.9	10.0	10.0	9.6	9.6	9.2	10.0	9.2
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: P243249

CATALOG NUMBER: S122RDR-H675D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1130.2	1130.2	1130.2	1130.2
2.5°	1072.2	1071.8	1069.6	1065.9
5°	1014.1	1012.6	1008.9	1011.9
7.5°	952.0	947.9	944.2	946.0
10°	885.4	883.9	881.7	877.3
12.5°	811.8	817.7	811.4	825.5
15°	702.7	728.9	696.0	707.1
17.5°	648.3	648.7	644.3	639.1
20°	597.3	584.3	589.1	580.6
22.5°	548.1	545.1	543.7	540.7
25°	504.1	498.5	496.7	498.5
27.5°	471.5	469.0	461.9	460.8
30°	430.9	429.7	427.5	426.8
32.5°	405.3	400.5	399.4	395.0
35°	376.9	374.3	372.4	371.3
37.5°	348.4	346.9	343.6	345.4
40°	325.1	317.7	314.7	314.4
42.5°	299.6	295.5	289.6	287.7
45°	270.0	268.1	266.3	265.5
47.5°	244.1	243.0	240.8	239.7
50°	225.6	222.6	222.3	221.9
52.5°	207.8	206.7	205.6	207.1
55°	191.2	189.7	188.6	188.6
57.5°	173.1	170.5	168.3	168.6
60°	152.0	150.5	148.7	147.9
62.5°	127.6	127.6	127.2	127.2
65°	116.1	115.4	115.0	115.4
67.5°	103.6	102.8	101.7	102.1
70°	89.1	88.8	89.1	88.8
72.5°	76.2	75.8	76.2	76.9
75°	64.4	64.0	63.6	63.6
77.5°	52.1	51.8	51.0	51.8
80°	40.7	40.3	39.9	39.9
82.5°	28.8	29.2	28.8	28.8
85°	18.9	19.2	18.9	18.5
87.5°	9.6	10.0	9.2	8.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)