

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: P243258

Luminaire Tested: **S122RDR-H485D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243258  
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-H485D835-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

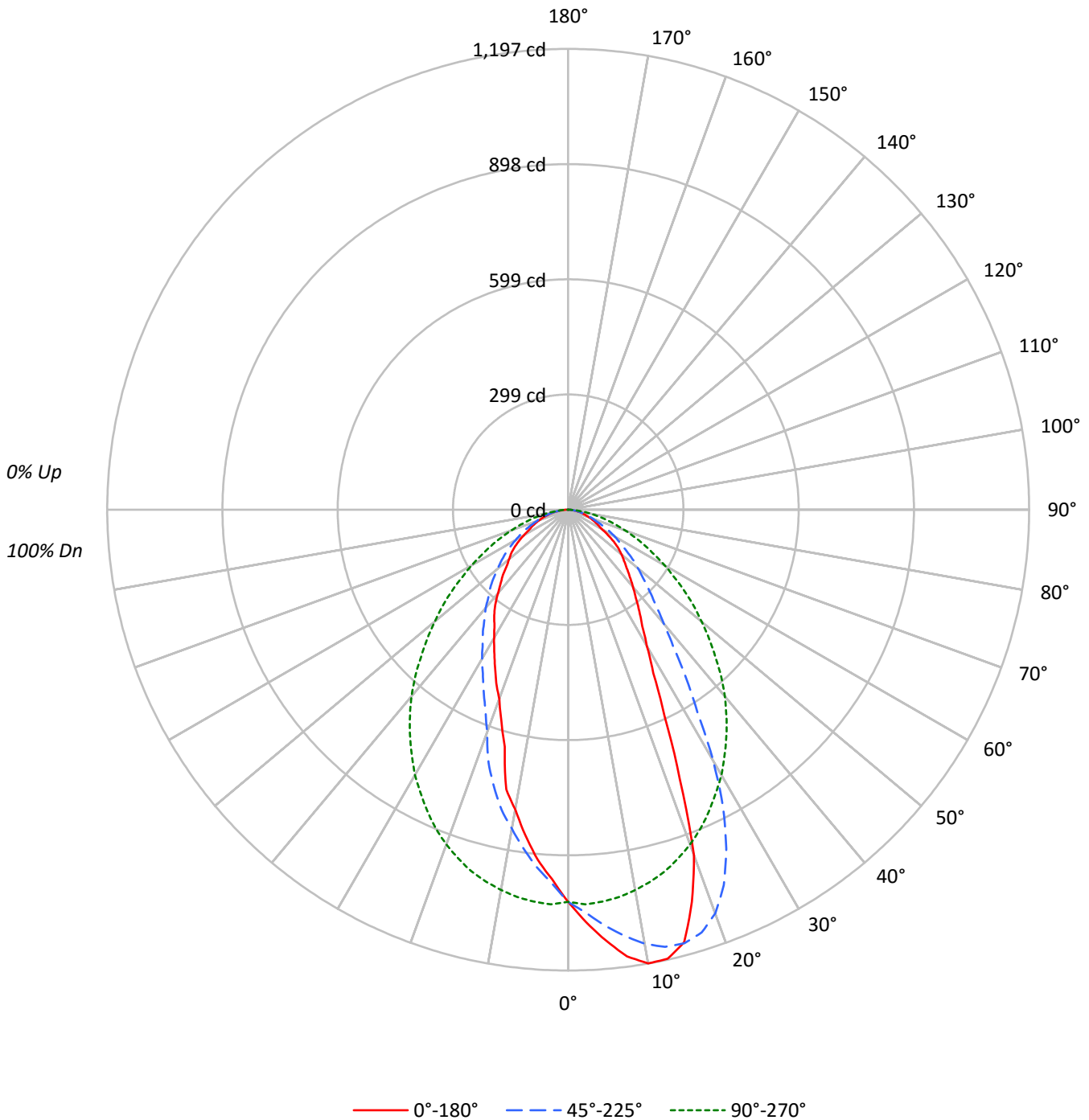
Lumens per Lamp: N/A  
Luminaire Lumens: 1716.9 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.2  
Input Voltage (V): 120  
Input Current (A<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	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°	19404	19404	19404
5°	21480	19535	17440
10°	23146	19402	15293
15°	22942	19175	12569
20°	19352	18752	10609
25°	12442	18173	9445
30°	8989	17501	8461
35°	7487	16658	7783
40°	6497	15732	7044
45°	5800	14557	6446
50°	5355	13406	5927
55°	4805	12244	5645
60°	3836	11025	5078
65°	3516	9902	4687
70°	3230	8744	4455
75°	2944	7654	4217
80°	2556	6362	3949
85°	2032	5092	3650



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	5.6
10°-20°	263.8	15.4
20°-30°	332.6	19.4
30°-40°	319.3	18.6
40°-50°	275.0	16.0
50°-60°	210.2	12.2
60°-70°	133.8	7.8
70°-80°	67.8	3.9
80°-90°	17.9	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°	692.9	40.4
0°-40°	1012.2	59.0
0°-60°	1497.4	87.2
0°-90°	1716.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1716.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1019	1019	1019	1019	1019	
5°	1123	1084	1022	932	912	110
15°	1163	1166	972	745	637	315
25°	592	971	865	519	449	283
35°	322	533	716	386	335	203
45°	215	299	540	286	239	168
55°	145	182	369	199	170	128
65°	78	100	220	122	104	78
75°	40	45	104	63	57	42
85°	9	11	23	18	17	11
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°	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7
2.5°	1072.7	1074.1	1074.7	1073.1	1069.4	1069.7	1066.4	1060.7	1053.7	1047.4	1051.1
5°	1123.4	1125.1	1124.7	1121.7	1118.1	1114.7	1109.1	1101.1	1092.7	1084.1	1082.4
7.5°	1170.1	1173.7	1172.7	1167.1	1164.4	1159.7	1150.1	1141.1	1128.4	1116.1	1111.1
10°	1196.7	1199.7	1198.1	1196.7	1193.7	1189.1	1180.4	1171.7	1157.7	1144.7	1137.4
12.5°	1194.7	1197.4	1198.7	1200.1	1199.1	1197.4	1193.7	1186.4	1175.1	1163.1	1153.7
15°	1163.4	1159.1	1156.1	1164.4	1167.4	1178.7	1181.4	1182.4	1174.7	1165.7	1163.4
17.5°	1068.1	1069.4	1092.4	1088.7	1093.7	1121.4	1132.4	1147.4	1153.7	1151.7	1155.7
20°	954.7	939.1	950.4	967.1	982.7	1023.1	1049.7	1073.4	1100.7	1116.1	1130.7
22.5°	757.4	757.7	785.0	812.4	847.7	891.4	932.1	977.4	1026.1	1055.7	1090.1
25°	592.0	608.0	620.0	632.0	683.4	725.4	793.0	848.0	915.1	971.4	1029.1
27.5°	478.7	495.4	497.4	524.4	554.7	588.7	633.0	719.7	788.4	871.1	942.4
30°	408.7	412.0	419.0	426.0	448.4	480.0	527.7	582.0	658.4	752.7	848.4
32.5°	358.0	357.4	364.4	375.4	387.7	409.0	436.0	481.0	550.0	625.0	736.7
35°	322.0	321.0	326.0	330.0	337.4	354.7	379.0	408.7	458.4	533.0	619.7
37.5°	288.0	290.0	293.0	297.4	307.0	318.0	334.4	359.0	398.4	447.7	530.7
40°	261.3	263.7	267.0	270.0	277.3	286.3	297.4	317.0	343.4	386.4	450.0
42.5°	237.3	238.3	241.0	245.3	250.7	258.7	269.3	284.3	306.4	336.4	392.0
45°	215.3	215.3	218.3	222.3	225.7	233.3	241.7	256.0	273.0	298.7	338.4
47.5°	196.7	197.0	198.7	199.3	203.0	210.0	219.0	230.3	244.3	264.0	301.0
50°	180.7	182.0	182.7	183.7	185.0	188.7	195.0	203.7	219.0	236.3	261.0
52.5°	164.0	165.7	167.0	169.0	171.0	171.3	176.0	181.7	192.3	210.3	230.3
55°	144.7	146.0	148.7	150.3	153.0	155.3	159.0	163.0	170.0	182.0	202.7
57.5°	122.7	123.0	125.7	127.3	132.7	138.0	141.3	145.7	150.7	159.0	174.7
60°	100.7	101.7	102.0	103.3	108.0	113.7	120.3	127.0	132.3	139.7	150.7
62.5°	88.7	89.0	90.0	91.3	91.7	94.3	96.3	104.3	113.7	121.0	128.3
65°	78.0	78.3	78.3	79.3	80.7	82.0	83.0	86.0	90.0	100.3	109.3
67.5°	68.0	67.7	68.3	69.3	69.7	70.7	72.3	74.0	76.7	79.7	89.0
70°	58.0	58.0	57.7	58.7	59.7	60.0	61.0	62.7	64.3	67.0	70.0
72.5°	48.0	48.7	48.7	49.3	49.7	51.0	51.7	52.3	54.7	56.0	58.3
75°	40.0	39.7	40.7	40.3	41.0	41.3	42.3	43.3	44.0	45.3	47.3
77.5°	32.0	31.3	32.0	31.7	32.3	33.0	33.0	34.0	34.7	36.0	37.0
80°	23.3	23.3	23.7	24.3	24.3	24.7	25.3	25.0	26.3	26.7	27.7
82.5°	16.0	16.3	16.3	16.7	16.7	16.7	17.3	17.3	17.7	18.3	18.7
85°	9.3	9.0	9.3	9.3	9.3	9.7	10.0	9.7	10.3	11.0	11.0
87.5°	2.7	2.7	3.0	3.3	3.3	3.7	3.7	3.7	4.0	4.0	4.3
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°	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7
2.5°	1051.1	1049.4	1045.1	1041.1	1033.7	1027.7	1025.7	1026.1	1017.1	1007.7	1005.1
5°	1080.1	1074.1	1065.4	1056.4	1045.4	1034.4	1027.4	1021.7	1007.7	993.7	985.7
7.5°	1104.1	1094.4	1081.7	1067.4	1053.1	1036.7	1025.4	1014.7	995.4	976.4	966.1
10°	1126.1	1112.4	1095.1	1076.4	1057.4	1036.1	1019.7	1003.1	978.7	957.4	939.7
12.5°	1147.1	1125.4	1107.7	1080.7	1059.7	1030.7	1008.4	989.1	960.4	933.7	914.1
15°	1149.1	1133.7	1110.1	1082.1	1050.1	1023.1	995.1	972.4	939.7	910.1	876.4
17.5°	1148.7	1136.7	1112.1	1083.4	1045.1	1009.7	979.4	949.7	912.4	877.7	848.7
20°	1136.7	1128.4	1107.1	1073.1	1034.4	993.7	960.1	925.1	881.4	845.7	814.0
22.5°	1108.4	1110.4	1093.7	1063.4	1021.7	976.4	937.4	897.1	852.4	811.4	771.4
25°	1060.4	1081.7	1076.7	1048.4	1004.1	954.4	910.1	864.7	816.7	773.0	736.0
27.5°	1000.7	1040.7	1049.4	1027.4	985.1	929.4	879.1	829.7	780.7	733.7	695.7
30°	930.1	989.7	1011.7	999.7	960.7	902.4	844.0	795.7	742.0	692.0	652.0
32.5°	841.0	924.7	963.4	967.1	935.1	872.4	807.7	755.7	700.7	653.4	610.4
35°	741.7	844.4	907.4	924.4	901.4	839.4	771.4	716.4	657.7	610.0	566.7
37.5°	641.7	762.4	845.0	878.1	862.7	802.7	730.7	675.0	617.0	568.4	527.7
40°	549.7	664.4	771.7	823.4	818.7	763.0	690.4	632.7	573.7	528.7	484.0
42.5°	467.4	578.0	696.0	765.4	769.0	720.4	646.0	588.0	531.4	486.7	440.0
45°	402.4	499.7	616.7	699.4	715.4	675.4	600.0	540.4	488.7	446.7	400.0
47.5°	350.4	426.0	534.7	631.7	660.0	625.0	553.0	496.4	447.7	411.7	367.7
50°	305.4	376.4	468.7	558.4	600.0	573.7	506.4	452.4	408.4	373.7	335.0
52.5°	265.3	320.4	400.4	486.4	542.4	518.4	461.0	411.4	370.0	337.7	305.4
55°	232.3	278.3	349.0	425.7	477.4	464.0	413.0	368.7	332.4	301.7	275.3
57.5°	198.3	237.0	294.0	362.4	413.0	411.0	369.0	326.4	297.7	268.7	249.7
60°	168.7	200.0	246.3	304.4	355.4	355.7	323.0	289.4	264.7	239.7	221.7
62.5°	142.3	167.3	207.7	254.3	295.0	305.4	281.0	251.7	231.7	212.3	197.0
65°	119.7	138.3	168.7	211.0	243.0	257.0	241.0	219.7	203.0	185.7	172.0
67.5°	98.7	112.3	134.7	168.0	200.0	210.3	203.7	187.3	175.3	161.0	150.7
70°	77.7	89.3	105.0	130.0	156.3	170.7	168.7	157.0	147.0	136.7	127.0
72.5°	61.7	68.3	80.3	98.3	119.3	135.3	136.0	130.0	121.7	113.0	106.7
75°	49.7	52.7	58.3	72.3	89.0	102.3	107.0	104.0	97.3	92.0	87.7
77.5°	38.3	41.0	44.7	51.3	64.3	74.7	80.3	80.7	76.7	72.0	68.7
80°	28.7	29.7	32.3	35.7	42.3	51.3	58.0	58.0	55.7	53.3	51.3
82.5°	19.7	20.7	22.0	23.7	27.0	32.3	38.3	39.3	38.0	37.3	34.7
85°	11.0	12.0	12.7	13.7	15.0	17.7	22.0	23.3	23.7	21.7	20.3
87.5°	4.3	4.3	4.7	5.0	5.3	6.3	8.0	10.0	10.0	9.0	8.7
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7	1018.7
2.5°	1001.7	997.1	991.1	985.7	978.4	971.1	969.7	972.4	973.1	969.7	970.7
5°	978.1	969.4	962.1	950.1	942.4	932.4	925.7	925.7	925.7	920.7	916.1
7.5°	953.4	941.7	927.7	916.4	900.7	887.7	881.4	878.4	872.4	867.4	861.7
10°	924.7	908.4	891.1	873.4	859.7	841.7	831.0	824.4	814.0	809.7	801.4
12.5°	891.1	874.7	853.7	825.0	821.0	799.0	784.0	771.7	759.0	748.7	745.0
15°	864.1	835.7	807.7	787.4	757.7	744.7	722.7	720.7	710.4	680.0	656.4
17.5°	820.4	795.0	764.0	741.4	717.7	688.7	665.4	642.4	620.4	599.0	598.4
20°	781.7	752.0	722.7	698.0	656.7	615.4	601.0	580.0	567.0	550.0	545.0
22.5°	739.4	708.4	671.7	635.7	587.4	561.4	545.7	529.0	516.0	508.4	500.7
25°	696.7	665.7	617.0	572.7	539.7	519.4	506.0	488.0	478.7	472.0	462.0
27.5°	655.0	615.7	564.4	529.0	502.4	479.4	467.4	452.7	442.4	433.7	427.4
30°	613.7	559.7	516.0	488.7	461.4	447.0	431.4	420.4	412.7	404.7	394.4
32.5°	568.4	511.7	483.4	449.7	433.7	413.0	401.7	390.4	380.4	374.7	371.0
35°	515.7	470.0	444.7	420.0	399.7	386.0	370.0	363.0	357.7	346.7	342.0
37.5°	471.0	438.0	411.4	389.4	370.7	356.0	348.7	336.7	329.0	325.4	320.4
40°	434.0	404.7	381.7	359.4	343.7	333.0	320.0	313.7	303.7	300.0	296.0
42.5°	402.0	375.0	351.0	334.0	320.4	305.7	299.0	288.4	284.0	275.0	271.7
45°	369.7	345.7	324.7	308.0	295.0	286.0	274.0	267.3	259.7	255.0	246.0
47.5°	337.4	316.0	298.7	284.7	273.3	262.3	252.3	246.7	237.0	232.0	227.3
50°	312.4	291.7	275.3	261.3	249.7	238.7	232.3	223.0	214.3	208.7	207.0
52.5°	282.7	264.7	249.7	239.0	227.3	219.3	210.7	200.3	196.0	190.3	189.0
55°	256.3	241.7	229.0	217.7	207.7	198.7	188.7	181.3	178.0	175.3	173.3
57.5°	231.7	217.7	206.0	195.7	187.0	177.7	169.3	165.0	162.0	159.0	157.0
60°	207.3	194.7	184.0	175.3	166.3	157.3	151.3	147.7	145.3	141.0	139.7
62.5°	185.7	174.0	163.0	155.0	146.7	139.7	134.7	129.7	126.0	122.7	115.7
65°	162.0	151.7	143.3	135.3	127.3	122.0	116.3	110.7	106.0	106.0	106.0
67.5°	141.0	132.0	123.3	116.3	109.3	103.0	97.3	97.0	95.3	94.7	93.7
70°	119.7	113.3	105.3	97.7	90.7	87.7	86.7	85.0	83.0	82.7	81.3
72.5°	100.3	93.0	85.7	79.0	77.7	76.3	74.3	72.7	71.3	70.3	69.7
75°	82.0	74.7	68.7	67.0	65.3	63.0	61.3	60.0	59.3	59.3	59.0
77.5°	62.7	58.3	55.7	53.0	51.7	50.3	49.3	48.7	47.7	48.0	47.3
80°	46.0	44.7	42.3	40.7	40.0	38.7	38.0	37.7	37.0	37.0	36.7
82.5°	33.0	30.7	29.7	28.7	28.0	27.3	27.7	27.3	27.0	26.7	27.0
85°	19.0	18.7	18.0	18.0	18.0	17.7	17.7	17.7	17.3	17.0	17.0
87.5°	8.3	8.7	8.7	8.0	9.0	9.0	8.7	8.7	8.3	9.0	8.3
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: P243258

CATALOG NUMBER: S122RDR-H485D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1018.7	1018.7	1018.7	1018.7
2.5°	966.4	966.1	964.1	960.7
5°	914.1	912.7	909.4	912.1
7.5°	858.0	854.4	851.0	852.7
10°	798.0	796.7	794.7	790.7
12.5°	731.7	737.0	731.4	744.0
15°	633.4	657.0	627.4	637.4
17.5°	584.4	584.7	580.7	576.0
20°	538.4	526.7	531.0	523.4
22.5°	494.0	491.4	490.0	487.4
25°	454.4	449.4	447.7	449.4
27.5°	425.0	422.7	416.4	415.4
30°	388.4	387.4	385.4	384.7
32.5°	365.4	361.0	360.0	356.0
35°	339.7	337.4	335.7	334.7
37.5°	314.0	312.7	309.7	311.4
40°	293.0	286.3	283.7	283.3
42.5°	270.0	266.3	261.0	259.3
45°	243.3	241.7	240.0	239.3
47.5°	220.0	219.0	217.0	216.0
50°	203.3	200.7	200.3	200.0
52.5°	187.3	186.3	185.3	186.7
55°	172.3	171.0	170.0	170.0
57.5°	156.0	153.7	151.7	152.0
60°	137.0	135.7	134.0	133.3
62.5°	115.0	115.0	114.7	114.7
65°	104.7	104.0	103.7	104.0
67.5°	93.3	92.7	91.7	92.0
70°	80.3	80.0	80.3	80.0
72.5°	68.7	68.3	68.7	69.3
75°	58.0	57.7	57.3	57.3
77.5°	47.0	46.7	46.0	46.7
80°	36.7	36.3	36.0	36.0
82.5°	26.0	26.3	26.0	26.0
85°	17.0	17.3	17.0	16.7
87.5°	8.7	9.0	8.3	8.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)