

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: P242408

Luminaire Tested: **S122RDR-S485D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242408  
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-S485D930-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**

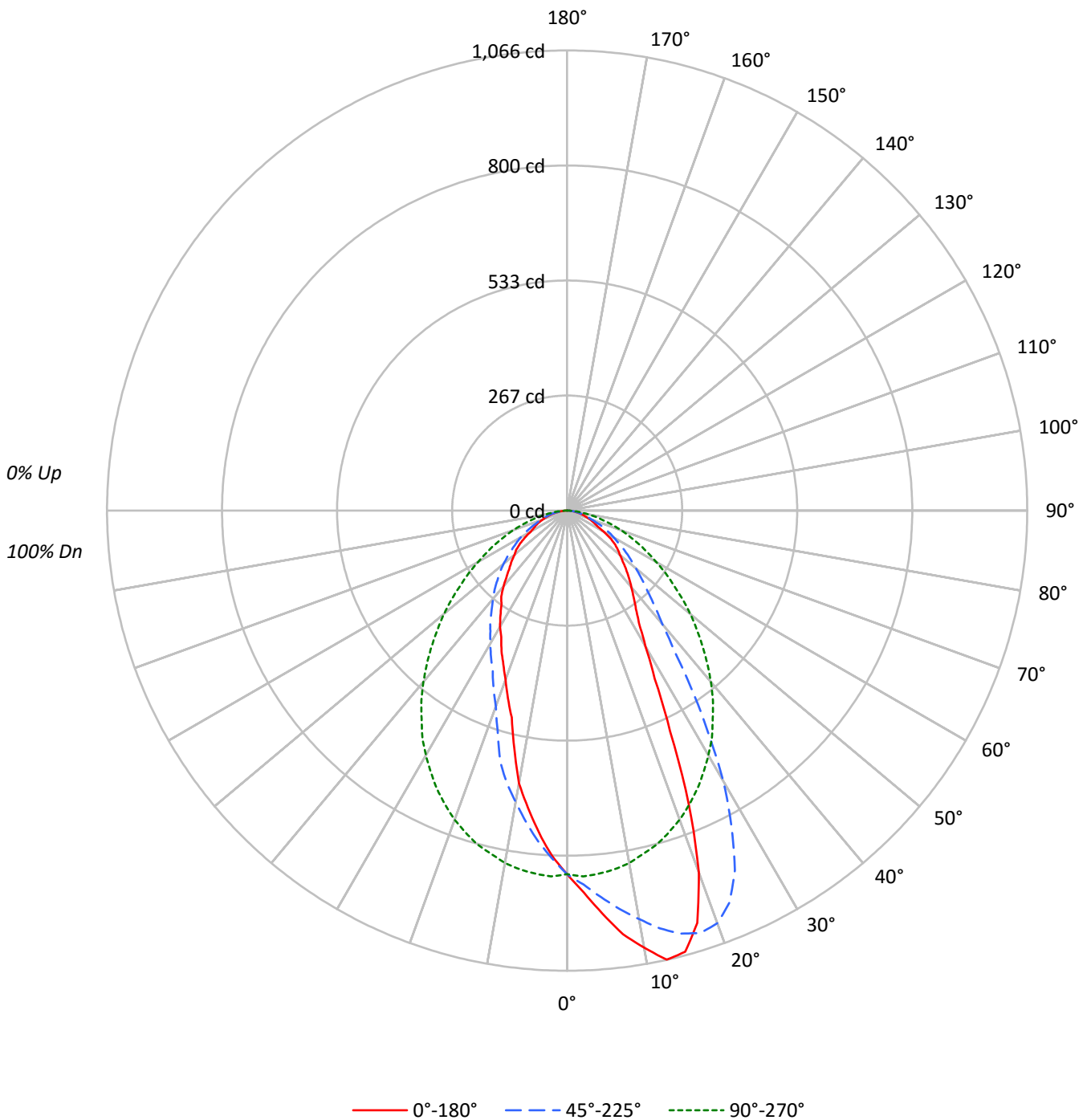
Lumens per Lamp: N/A  
Luminaire Lumens: 1455.8 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (A<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



TEST NUMBER: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242408

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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	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°	16046	16046	16046
5°	17922	16147	14317
10°	19883	16034	12410
15°	20861	15799	9779
20°	18085	15450	8461
25°	11862	14974	7556
30°	7984	14395	6838
35°	6467	13668	6167
40°	5749	12875	5707
45°	5204	11947	5094
50°	4735	11023	4718
55°	4453	10002	4394
60°	3726	9067	3680
65°	3141	8234	3561
70°	2902	7351	3358
75°	2716	6395	3106
80°	2501	5265	2764
85°	2295	4152	2426



TEST NUMBER: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.9	5.5
10°-20°	223.0	15.3
20°-30°	287.0	19.7
30°-40°	272.3	18.7
40°-50°	233.3	16.0
50°-60°	177.7	12.2
60°-70°	112.1	7.7
70°-80°	55.9	3.8
80°-90°	14.4	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°	590.0	40.5
0°-40°	862.3	59.2
0°-60°	1273.4	87.5
0°-90°	1455.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1455.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	842	842	842	842	842	
5°	937	899	844	770	749	92
15°	1058	1015	801	600	496	288
25°	564	919	712	408	360	267
35°	278	500	588	310	265	177
45°	193	263	444	229	189	149
55°	134	164	301	155	132	118
65°	70	94	183	93	79	70
75°	37	41	87	47	42	39
85°	10	11	19	11	11	12
90°	0	0	0	0	0	



TEST NUMBER: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	885.2	886.1	886.9	884.9	884.9	883.1	879.3	876.4	868.2	867.0	867.0
5°	937.3	936.7	937.9	934.1	928.8	927.6	922.1	914.7	907.1	898.6	896.9
7.5°	990.0	986.5	985.0	986.8	981.2	973.6	964.2	955.4	942.3	931.4	924.7
10°	1028.0	1037.7	1031.8	1021.6	1023.6	1009.9	1002.6	990.0	979.4	961.0	956.9
12.5°	1065.5	1067.8	1067.0	1062.3	1058.5	1050.0	1039.4	1028.9	1007.2	991.1	974.2
15°	1057.9	1063.4	1064.9	1063.2	1064.6	1064.0	1058.8	1049.7	1032.7	1014.6	998.8
17.5°	1001.7	1008.1	1013.4	1018.1	1025.4	1039.7	1044.1	1045.9	1038.9	1026.0	1012.8
20°	892.2	885.8	912.7	926.5	938.2	967.4	992.6	1002.3	1017.8	1017.5	1014.6
22.5°	737.1	740.6	765.8	782.7	822.5	851.8	881.4	924.4	958.1	982.9	998.2
25°	564.4	575.5	601.0	623.2	661.3	715.7	765.2	822.5	876.7	919.4	960.1
27.5°	439.1	440.5	463.7	486.2	509.6	556.8	622.9	691.7	769.0	824.6	894.8
30°	363.0	361.2	369.7	382.3	401.6	436.2	483.0	550.3	627.3	723.3	808.8
32.5°	309.1	309.7	315.6	324.0	339.3	359.8	388.1	439.7	511.4	605.3	709.3
35°	278.1	277.8	282.5	289.2	295.9	310.9	332.8	361.5	411.6	499.7	602.1
37.5°	252.3	253.8	255.8	260.2	268.4	277.2	291.0	311.2	349.2	404.0	495.9
40°	231.2	231.8	235.1	238.6	243.0	249.4	260.2	275.7	301.8	343.4	406.3
42.5°	211.9	212.5	214.6	217.8	221.0	227.4	235.9	248.8	268.7	298.9	348.0
45°	193.2	193.2	195.2	196.7	200.5	206.4	213.7	224.8	239.4	263.4	298.0
47.5°	175.0	175.0	176.5	179.1	181.8	186.5	194.1	203.4	214.0	233.6	264.3
50°	159.8	160.1	161.0	163.0	164.5	168.6	174.2	182.1	193.2	207.5	232.1
52.5°	147.5	147.2	148.4	149.0	149.9	152.5	156.3	163.0	172.7	184.7	204.0
55°	134.1	132.9	134.7	136.1	137.0	138.2	140.5	144.9	153.4	163.9	179.1
57.5°	118.3	117.7	118.6	120.0	122.6	125.6	127.0	130.0	134.4	142.6	158.7
60°	97.8	97.8	100.4	101.3	104.5	108.6	112.7	115.0	119.4	124.4	135.5
62.5°	79.6	79.9	80.8	81.7	83.1	88.4	94.5	100.4	104.5	109.2	115.6
65°	69.7	70.3	70.3	70.8	72.0	73.2	75.5	79.6	86.9	93.7	99.2
67.5°	60.9	60.9	61.2	61.8	62.1	63.5	64.4	66.4	67.9	75.5	83.1
70°	52.1	53.0	52.7	53.3	53.6	54.2	55.3	56.2	58.8	60.3	64.4
72.5°	43.9	44.5	44.5	44.8	45.7	45.7	46.5	47.4	48.9	50.1	51.8
75°	36.9	36.6	36.9	37.5	37.8	38.1	38.1	39.2	40.1	41.3	42.7
77.5°	29.9	30.2	30.2	30.2	30.2	30.7	30.7	31.3	32.2	32.8	33.7
80°	22.8	23.1	22.8	23.1	23.4	23.7	23.4	23.7	24.6	25.2	25.2
82.5°	16.4	16.4	16.7	16.7	16.7	16.7	17.3	17.3	17.9	17.6	17.9
85°	10.5	10.2	10.2	10.2	10.5	10.8	10.5	10.5	10.8	10.8	10.8
87.5°	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.3	5.0	5.3	5.0
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: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	867.6	865.3	863.2	858.0	855.3	849.5	848.6	848.3	840.7	833.4	831.3
5°	892.2	887.5	880.5	872.3	863.8	855.0	849.2	844.5	832.8	821.7	815.2
7.5°	916.5	908.0	896.9	882.8	870.8	856.8	847.1	838.3	822.2	807.6	798.0
10°	944.3	927.9	911.8	890.5	873.8	857.4	842.2	829.0	810.2	789.2	774.2
12.5°	961.6	943.1	919.4	898.6	875.8	853.9	832.2	814.3	791.5	769.6	751.1
15°	976.8	957.5	930.6	900.7	872.9	845.7	822.2	801.2	772.5	746.4	724.8
17.5°	990.9	964.2	936.4	901.9	871.1	838.1	808.5	782.1	750.8	720.1	695.5
20°	997.0	970.7	937.3	902.7	864.7	824.0	791.5	762.2	728.0	693.7	664.5
22.5°	993.2	974.2	936.1	893.1	853.9	810.8	773.1	737.9	699.0	663.9	628.8
25°	973.3	966.3	931.1	886.1	841.6	792.1	749.7	712.5	669.2	631.7	594.8
27.5°	936.7	946.9	922.1	873.2	825.2	771.9	725.7	683.8	639.6	597.7	560.8
30°	878.7	913.6	904.2	859.7	804.4	752.3	698.7	654.5	606.5	563.2	526.9
32.5°	799.4	862.6	876.4	841.0	783.3	724.8	668.0	624.1	573.4	527.2	492.1
35°	714.2	800.3	839.8	816.1	758.7	697.0	639.0	587.8	537.4	492.4	457.2
37.5°	613.2	728.0	788.9	786.2	731.5	668.6	605.6	555.0	503.2	458.7	422.1
40°	515.5	642.5	728.3	747.3	702.8	633.4	569.6	517.8	467.5	424.1	380.5
42.5°	427.7	554.1	664.5	701.1	668.0	599.2	535.1	480.4	431.8	391.4	346.6
45°	360.0	470.7	586.9	646.0	626.4	562.6	495.0	443.5	397.5	362.1	319.4
47.5°	311.7	392.2	509.0	586.3	584.0	523.4	456.1	406.6	363.3	330.5	294.2
50°	271.6	339.6	434.7	525.4	533.0	484.2	420.9	372.0	332.2	297.4	269.6
52.5°	235.6	288.6	371.8	457.8	483.0	442.3	381.4	337.2	298.9	267.5	244.7
55°	205.2	248.5	313.5	394.9	427.7	397.8	343.4	301.2	269.9	243.0	222.5
57.5°	178.6	212.5	266.7	334.9	372.0	351.8	305.3	270.5	242.7	217.5	201.1
60°	153.7	180.3	224.5	279.3	321.4	308.2	269.9	238.0	215.1	194.1	178.9
62.5°	130.3	152.2	188.5	230.4	268.1	264.6	235.1	209.6	190.3	171.5	159.2
65°	108.6	125.3	154.8	189.7	220.7	223.3	200.8	182.7	164.8	149.6	138.2
67.5°	89.9	101.3	123.5	154.3	178.0	186.2	170.9	156.3	141.7	129.4	119.1
70°	72.9	81.7	96.9	120.6	142.0	150.8	142.8	132.0	119.7	110.1	101.6
72.5°	55.6	64.1	74.4	90.2	107.7	117.4	115.9	108.9	99.5	91.9	84.0
75°	44.5	47.1	54.7	66.4	80.8	89.0	91.0	86.9	79.0	72.9	68.2
77.5°	34.5	36.3	40.4	47.4	57.4	64.7	67.9	67.3	61.5	57.4	53.0
80°	26.3	27.2	29.0	31.6	38.6	46.0	48.0	48.0	44.2	42.7	38.3
82.5°	18.4	19.0	19.9	21.1	23.4	29.6	31.9	32.5	30.4	28.4	25.2
85°	11.4	11.1	11.7	12.6	13.2	14.9	18.4	19.0	18.4	16.1	15.2
87.5°	5.0	5.3	5.3	5.0	5.3	5.6	7.0	8.5	7.3	6.4	5.9
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: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4	842.4
2.5°	827.5	825.5	821.7	815.8	812.3	806.1	802.0	804.4	805.0	804.4	803.8
5°	808.2	802.0	793.6	785.4	777.8	769.6	764.9	762.8	758.7	756.4	755.2
7.5°	786.2	777.2	765.2	752.0	739.7	728.0	722.7	718.6	711.0	706.9	703.1
10°	761.1	744.4	732.4	713.6	702.2	685.5	674.1	674.4	663.0	656.6	651.9
12.5°	733.3	714.5	692.6	676.2	659.2	646.6	632.3	625.2	613.0	606.8	592.2
15°	701.9	680.6	659.5	636.7	620.6	599.8	579.9	555.6	536.0	519.0	514.3
17.5°	668.6	642.2	621.4	598.0	572.9	535.1	510.5	495.6	483.9	475.1	468.1
20°	634.0	607.1	584.6	544.2	507.0	483.3	466.3	455.5	443.2	433.5	428.2
22.5°	597.7	569.3	536.6	490.3	463.4	445.5	430.9	418.0	410.7	403.7	399.0
25°	563.8	533.0	482.4	451.4	428.0	408.1	397.5	389.9	381.1	370.9	366.2
27.5°	528.4	479.5	441.1	418.6	394.6	382.0	372.9	360.3	352.4	348.6	343.4
30°	487.7	438.8	410.4	385.2	369.4	355.1	343.9	337.5	329.9	322.0	318.8
32.5°	442.3	405.7	378.8	358.9	342.8	331.1	322.9	311.5	306.5	302.4	294.8
35°	406.3	376.7	351.8	334.9	319.6	309.7	299.5	293.3	283.4	279.3	276.6
37.5°	373.5	347.8	329.0	310.3	298.6	286.9	281.0	270.8	267.0	260.5	255.3
40°	346.6	321.4	303.5	288.9	275.4	267.3	259.3	251.4	245.0	242.4	235.6
42.5°	319.1	299.7	281.9	265.5	257.6	248.8	238.3	233.0	226.3	221.6	218.1
45°	294.2	276.0	260.8	247.6	237.7	228.6	222.2	212.5	208.7	200.2	196.7
47.5°	272.2	254.7	240.0	227.1	217.2	211.9	202.6	194.1	188.8	182.9	178.0
50°	248.5	234.5	220.4	209.3	200.5	192.0	182.4	178.6	169.2	166.6	163.9
52.5°	226.9	213.7	201.1	190.3	181.5	173.3	165.1	159.8	154.3	151.6	149.9
55°	207.0	194.1	181.8	172.1	163.3	154.8	149.6	143.4	140.5	138.5	136.1
57.5°	186.5	174.8	165.1	155.1	146.4	139.3	132.9	129.4	126.5	124.1	120.9
60°	167.1	156.0	147.5	138.5	129.4	123.8	119.1	114.7	111.2	107.1	106.0
62.5°	146.7	137.3	129.7	120.9	113.3	108.3	103.9	99.8	95.4	89.0	87.2
65°	128.2	120.6	112.4	105.1	98.1	93.1	86.6	82.0	80.2	79.6	79.3
67.5°	111.2	103.9	96.9	89.3	82.8	77.3	73.5	72.9	71.7	71.4	70.5
70°	94.3	87.5	80.5	73.5	67.3	66.4	65.3	64.1	62.6	62.1	61.5
72.5°	79.0	72.0	65.0	59.7	58.0	56.8	55.6	54.4	53.6	53.0	52.7
75°	62.9	56.5	51.8	49.8	48.3	47.4	45.7	44.8	44.2	43.3	43.0
77.5°	48.0	43.9	41.6	40.4	38.6	37.8	36.6	35.7	34.8	34.8	34.2
80°	34.5	32.8	31.3	29.6	29.0	27.8	27.5	26.6	26.9	26.1	26.1
82.5°	24.9	22.5	21.4	20.8	20.2	19.3	19.0	18.7	18.7	18.1	18.1
85°	13.8	13.2	12.6	12.0	12.0	11.1	11.4	11.1	11.1	10.5	10.2
87.5°	5.6	5.3	4.7	4.7	4.7	4.4	4.4	4.1	4.1	4.1	3.8
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: P242408

CATALOG NUMBER: S122RDR-S485D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	842.4	842.4	842.4	842.4
2.5°	800.6	801.2	800.3	800.9
5°	753.8	750.2	749.7	748.8
7.5°	698.4	698.1	696.4	694.3
10°	645.4	644.0	643.7	641.6
12.5°	583.4	572.0	570.8	564.9
15°	507.3	505.5	499.7	495.9
17.5°	464.8	459.0	456.9	456.1
20°	424.1	418.9	418.0	417.4
22.5°	396.0	390.5	387.9	385.8
25°	363.3	361.2	360.0	359.5
27.5°	337.5	332.2	331.7	330.2
30°	316.1	314.7	312.6	310.9
32.5°	291.0	289.8	288.0	287.4
35°	273.7	269.6	267.8	265.2
37.5°	254.7	252.3	249.4	250.6
40°	231.8	230.4	229.8	229.5
42.5°	213.7	209.0	207.2	207.2
45°	195.2	191.4	188.8	189.1
47.5°	175.3	175.6	173.9	174.5
50°	161.9	160.1	158.9	159.2
52.5°	149.0	147.5	146.7	148.1
55°	134.7	132.9	132.6	132.3
57.5°	119.1	118.3	116.8	115.9
60°	102.2	99.8	96.9	96.6
62.5°	86.6	86.6	86.6	86.6
65°	78.7	78.4	78.7	79.0
67.5°	70.5	70.0	69.4	69.7
70°	60.9	60.6	60.3	60.3
72.5°	51.5	51.5	51.2	50.9
75°	42.7	42.2	42.2	42.2
77.5°	34.2	34.0	33.7	33.4
80°	25.8	25.5	25.2	25.2
82.5°	18.1	17.9	17.9	17.6
85°	10.5	10.8	10.5	11.1
87.5°	3.8	3.5	3.8	3.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)