

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: P242751

Luminaire Tested: **S124RDR-S350D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242751  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDR-S350D930-X4F0-XX-UDD-A-W  
Description: DEFINE 4 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: 1116.8 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39  
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')  
CIE Type: Direct

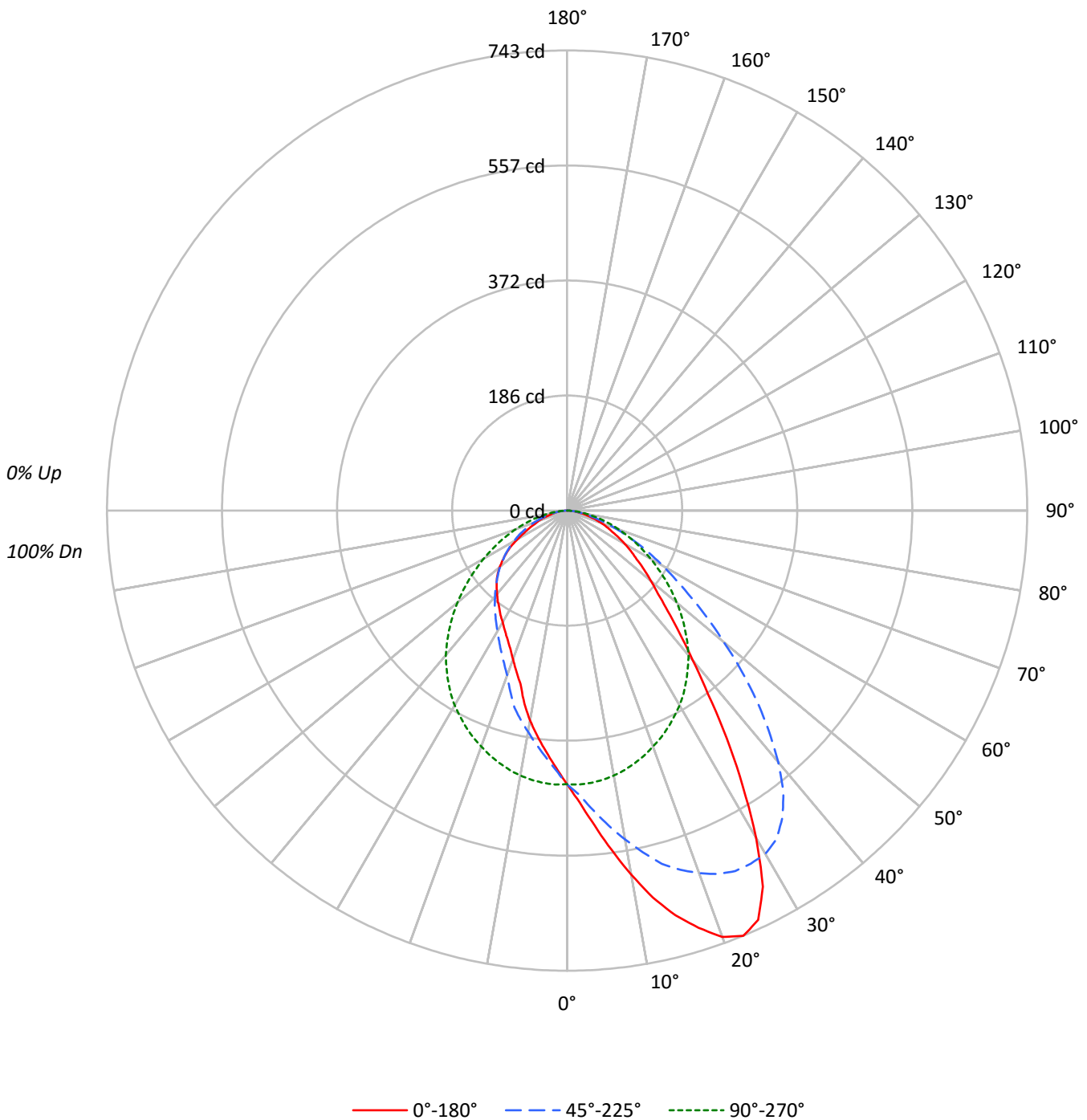
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65					63				
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57					55				
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50					48				
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45					43				
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40					38				
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36					34				
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33					31				
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30					28				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	3927	3927	3927
5°	4555	3939	3482
10°	5389	3922	3107
15°	6225	3885	2670
20°	6930	3836	2414
25°	7154	3787	2241
30°	6262	3727	2137
35°	4874	3638	2075
40°	3655	3538	2041
45°	2886	3377	2023
50°	2437	3190	1964
55°	2125	2985	1860
60°	1911	2772	1646
65°	1685	2543	1416
70°	1518	2303	1276
75°	1271	2040	1089
80°	1075	1740	1019
85°	908	1356	908



TEST NUMBER: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.8	3.8
10°-20°	129.2	11.6
20°-30°	202.3	18.1
30°-40°	224.7	20.1
40°-50°	199.1	17.8
50°-60°	155.2	13.9
60°-70°	101.5	9.1
70°-80°	49.8	4.5
80°-90°	12.1	1.1
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°	374.3	33.5
0°-40°	599.0	53.6
0°-60°	953.3	85.4
0°-90°	1116.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1116.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	442	442	442	442	442	
5°	510	486	441	399	390	51
15°	676	591	422	329	290	192
25°	729	642	386	252	228	326
35°	449	606	335	202	191	281
45°	230	432	269	161	161	181
55°	137	244	193	121	120	124
65°	80	126	121	78	67	80
75°	37	48	59	38	32	41
85°	9	10	13	9	9	10
90°	0	0	0	0	0	



TEST NUMBER: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	472.0	473.6	472.0	471.9	470.1	469.5	468.8	466.5	462.2	459.7	460.3
5°	510.5	514.9	512.4	512.1	508.2	504.2	501.8	496.1	490.0	485.9	482.5
7.5°	553.2	555.9	554.1	552.1	545.4	543.2	537.4	530.6	520.4	512.8	505.8
10°	597.0	599.1	598.4	593.8	589.1	579.7	574.4	563.9	550.2	539.3	529.2
12.5°	640.1	642.4	634.7	636.1	626.3	619.4	610.1	596.3	579.9	565.1	551.8
15°	676.4	673.5	673.5	670.0	660.2	649.8	641.1	627.2	607.3	590.6	572.9
17.5°	706.3	707.5	706.1	697.0	689.9	679.4	663.7	647.9	630.6	608.2	590.7
20°	732.6	732.6	731.0	725.3	715.3	704.0	686.7	669.1	645.6	623.0	602.7
22.5°	743.3	744.0	742.0	737.6	728.9	717.8	703.8	685.8	661.4	635.2	608.9
25°	729.4	732.8	733.1	731.9	729.2	722.5	709.8	691.5	669.8	642.2	615.1
27.5°	684.5	689.0	690.8	694.7	702.0	704.7	703.1	690.8	669.8	642.5	615.7
30°	610.1	613.7	625.3	640.4	652.2	662.8	672.1	674.6	663.9	640.1	611.4
32.5°	527.6	532.7	544.3	560.8	582.4	602.3	626.0	638.6	640.9	629.0	603.0
35°	449.2	452.8	463.5	480.6	504.1	530.9	563.9	589.5	606.9	605.7	589.5
37.5°	374.1	379.1	390.0	404.0	427.2	461.5	492.7	527.0	558.4	573.7	565.5
40°	315.0	315.2	325.7	340.3	361.7	390.7	425.4	464.6	500.5	529.9	535.6
42.5°	268.4	268.4	274.5	290.5	304.4	331.2	364.0	402.8	446.4	481.5	498.9
45°	229.6	231.2	236.9	246.3	258.4	281.6	308.1	344.2	391.4	431.6	456.7
47.5°	199.0	201.8	205.2	213.8	223.7	239.9	262.5	296.4	335.5	380.2	414.9
50°	176.2	176.6	181.2	185.5	193.8	206.1	225.3	252.4	287.6	330.2	369.9
52.5°	156.6	156.5	158.8	164.5	170.9	179.8	194.4	218.4	248.7	285.7	327.0
55°	137.1	137.9	140.1	144.3	149.5	156.3	168.6	187.1	211.6	244.2	281.4
57.5°	122.1	122.6	124.6	126.2	131.2	136.2	146.1	159.5	181.0	208.2	244.7
60°	107.5	107.7	108.2	110.9	114.6	119.3	125.5	136.3	153.8	178.2	205.6
62.5°	93.3	93.6	94.5	96.3	99.0	101.8	108.4	116.6	130.3	150.2	174.3
65°	80.1	80.3	81.5	82.2	84.5	87.4	92.2	98.1	108.0	125.5	144.2
67.5°	69.1	69.1	69.1	70.1	71.9	73.9	77.1	82.1	90.1	101.3	118.7
70°	58.4	58.4	58.7	59.3	60.2	61.8	63.4	66.9	72.4	81.2	93.8
72.5°	48.4	48.6	48.9	48.9	49.3	50.5	51.6	53.6	57.3	63.4	73.0
75°	37.0	37.6	38.4	39.2	40.0	39.9	41.1	42.5	43.8	47.7	53.6
77.5°	29.2	28.8	28.8	29.5	29.7	29.9	30.8	32.0	33.1	35.2	37.4
80°	21.0	21.0	21.5	21.7	21.5	21.7	22.6	23.1	23.5	24.2	26.2
82.5°	14.6	15.0	14.6	14.8	15.0	15.1	15.8	15.8	16.2	16.4	16.9
85°	8.9	9.1	9.3	8.9	8.9	8.9	9.3	9.4	9.8	9.6	10.0
87.5°	3.9	3.7	3.9	3.9	4.1	3.9	4.1	4.4	4.1	4.3	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



TEST NUMBER: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	458.5	456.0	454.8	451.9	448.5	446.8	445.2	442.8	439.8	436.6	434.3
5°	478.3	474.0	468.6	462.2	456.5	451.0	446.2	441.4	435.9	430.2	424.5
7.5°	497.8	490.2	482.0	472.2	462.8	454.1	446.2	438.6	429.8	422.0	414.7
10°	518.5	507.1	494.5	481.1	467.8	456.2	444.8	434.5	423.1	412.9	404.4
12.5°	535.2	521.3	505.5	488.0	471.3	456.7	443.2	429.0	415.6	404.4	392.3
15°	554.1	535.7	515.3	495.3	474.5	455.5	437.9	422.2	407.4	391.9	381.1
17.5°	567.1	545.9	521.7	498.6	474.7	452.6	432.7	414.5	397.6	382.1	369.3
20°	578.5	554.4	526.9	499.6	472.0	448.0	426.1	405.5	387.8	370.8	357.4
22.5°	584.9	557.6	526.9	498.0	469.2	442.7	418.1	396.4	376.8	359.7	344.6
25°	585.2	556.8	526.0	493.2	461.9	434.3	409.4	386.1	364.7	347.6	332.0
27.5°	583.8	550.9	519.9	486.6	454.4	425.0	399.2	374.5	353.3	335.2	319.1
30°	579.5	543.6	509.8	474.9	442.1	414.2	386.6	363.1	340.9	321.8	305.6
32.5°	570.3	534.7	497.7	461.7	428.4	399.4	373.6	349.9	328.2	308.6	291.2
35°	557.5	521.3	481.8	445.2	412.6	382.7	358.1	335.3	314.5	293.7	275.5
37.5°	542.7	505.0	466.0	425.8	393.4	364.9	341.9	320.0	299.7	280.7	260.6
40°	519.9	486.3	445.7	405.8	372.4	345.1	324.3	304.9	284.4	265.6	245.4
42.5°	492.3	464.9	423.8	383.7	350.8	324.8	305.8	286.9	268.8	250.6	229.4
45°	461.0	439.3	400.8	362.4	329.1	303.1	285.3	268.6	252.2	234.8	215.0
47.5°	426.1	410.1	376.6	336.4	305.3	281.4	264.3	250.4	236.0	218.4	200.6
50°	389.4	380.0	348.0	312.0	282.6	261.1	243.5	230.7	219.1	202.4	186.9
52.5°	350.3	346.4	320.6	286.6	258.4	237.4	223.0	211.8	200.1	186.9	172.7
55°	310.4	313.1	290.1	260.4	233.7	215.9	202.2	192.6	182.6	170.9	159.7
57.5°	268.9	279.1	262.0	235.1	209.3	192.6	182.1	173.5	165.2	155.2	145.1
60°	232.5	240.6	231.9	209.0	187.1	171.8	162.1	155.9	147.6	138.7	131.4
62.5°	196.9	205.8	201.5	184.0	164.1	151.5	143.3	137.6	131.9	124.4	116.8
65°	168.2	173.9	171.4	158.6	144.2	133.0	125.1	120.9	115.2	109.5	102.7
67.5°	134.6	145.8	144.0	136.9	123.0	114.1	108.6	104.7	99.3	95.0	90.2
70°	105.9	116.0	115.9	110.4	103.6	95.4	91.8	88.6	84.0	79.9	76.2
72.5°	81.9	91.0	92.7	88.8	84.7	79.0	75.6	73.7	69.2	66.7	63.9
75°	60.7	67.5	69.2	69.2	67.1	63.9	60.9	59.4	56.2	53.8	52.0
77.5°	42.7	47.3	50.0	50.5	50.7	49.5	46.6	45.6	43.1	42.2	40.2
80°	28.1	31.0	34.2	35.2	36.1	35.8	34.7	34.0	31.7	30.8	30.1
82.5°	17.3	18.5	21.0	23.7	23.1	24.4	23.5	23.0	21.4	21.2	20.5
85°	10.1	10.3	10.7	12.3	13.2	13.5	13.7	13.3	12.8	12.8	11.6
87.5°	4.3	4.1	4.4	4.4	4.6	5.3	5.9	6.1	5.5	5.0	4.4
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: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	431.8	430.0	427.7	425.0	421.8	419.0	417.7	418.8	419.3	417.9	417.7
5°	420.6	416.1	412.6	407.2	403.0	399.4	396.9	395.8	396.2	393.4	392.6
7.5°	408.1	403.3	397.5	391.4	385.7	380.7	378.1	376.8	373.8	372.5	370.6
10°	396.2	389.1	383.4	375.9	369.2	362.9	359.9	357.4	354.4	353.0	349.9
12.5°	383.9	375.4	369.0	361.1	354.2	346.4	343.5	338.4	333.2	329.8	325.7
15°	372.5	362.6	354.9	345.7	337.5	328.9	321.3	312.7	309.5	302.8	298.8
17.5°	359.0	348.7	340.1	328.2	315.9	305.6	297.1	288.2	283.4	278.7	276.8
20°	345.7	336.4	323.2	308.8	294.8	283.0	276.4	271.1	265.7	262.7	260.6
22.5°	333.0	320.6	304.7	288.9	274.8	266.3	260.9	255.4	251.3	248.5	245.4
25°	318.6	303.1	286.9	269.1	259.5	251.5	245.4	241.0	238.3	234.6	233.2
27.5°	304.5	285.9	267.5	255.4	245.4	237.8	232.3	229.1	225.5	223.0	221.1
30°	287.8	268.8	252.7	241.4	231.2	225.2	220.9	217.0	214.3	212.3	210.9
32.5°	271.3	252.2	239.4	226.9	219.5	213.6	209.0	206.3	204.3	201.7	201.0
35°	255.4	238.5	226.8	215.7	207.5	202.2	198.6	195.6	193.8	193.1	192.6
37.5°	239.9	225.9	212.9	204.0	196.3	192.2	187.6	186.2	184.9	183.3	184.0
40°	225.3	212.3	201.1	191.5	185.6	181.0	178.5	176.7	175.7	175.7	175.7
42.5°	212.7	200.1	189.2	180.8	175.0	171.2	168.4	167.0	166.8	166.6	167.7
45°	199.5	187.8	176.7	169.6	164.6	160.7	159.1	157.9	157.9	158.6	158.8
47.5°	186.4	175.3	166.4	158.2	153.6	151.1	149.7	149.0	149.0	149.9	150.6
50°	174.4	163.6	154.9	147.7	143.5	141.1	139.9	139.5	139.9	139.9	141.1
52.5°	161.4	152.0	143.5	137.8	132.8	130.6	130.1	129.6	129.8	130.5	130.8
55°	148.8	140.1	131.9	126.2	122.6	121.2	119.6	119.8	119.4	119.8	119.8
57.5°	136.0	128.3	120.3	115.7	112.7	110.5	108.8	109.3	108.8	108.8	108.6
60°	123.7	115.2	109.1	105.0	101.5	99.7	98.1	98.4	97.9	97.5	96.8
62.5°	110.4	103.6	97.9	94.0	91.3	89.2	87.6	87.0	85.6	84.2	82.4
65°	97.5	91.7	86.5	82.8	80.1	78.5	77.2	76.2	73.5	70.7	69.2
67.5°	84.9	80.6	75.6	72.4	70.3	68.2	65.9	63.9	61.2	59.4	58.6
70°	72.8	68.7	64.6	61.6	59.3	57.3	54.6	53.4	51.6	50.9	50.0
72.5°	61.2	57.5	53.8	51.1	48.6	47.2	45.2	44.0	43.4	43.3	42.4
75°	49.5	46.5	43.6	41.1	39.2	38.1	37.2	36.3	36.0	34.4	33.5
77.5°	38.1	36.0	34.2	32.2	31.0	30.3	28.3	27.1	26.3	25.5	25.3
80°	28.1	26.7	24.9	23.9	21.9	21.2	20.5	20.3	20.1	19.9	19.8
82.5°	19.4	18.0	16.2	15.7	15.5	15.1	14.8	14.6	14.4	14.6	14.6
85°	10.7	10.0	10.0	9.8	9.6	9.4	9.3	9.3	9.1	9.3	9.1
87.5°	4.4	4.3	4.3	3.9	4.1	4.1	3.9	3.9	4.1	3.7	3.7
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: P242751

CATALOG NUMBER: S124RDR-S350D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	441.8	441.8	441.8	441.8
2.5°	416.7	417.0	415.8	415.4
5°	391.2	390.9	390.0	390.2
7.5°	369.2	367.9	368.8	367.4
10°	349.2	347.3	345.7	344.2
12.5°	322.0	320.4	318.1	319.0
15°	296.5	293.9	289.6	290.1
17.5°	273.7	274.1	271.6	272.3
20°	256.8	255.6	255.8	255.2
22.5°	245.1	243.5	241.9	240.6
25°	231.6	230.5	228.9	228.5
27.5°	219.6	219.5	218.7	217.9
30°	209.5	209.1	208.8	208.2
32.5°	200.4	200.2	199.9	200.1
35°	191.9	191.7	191.3	191.2
37.5°	183.9	184.4	184.0	184.0
40°	175.5	175.7	176.0	175.9
42.5°	168.6	168.6	169.1	168.4
45°	160.0	161.1	160.9	160.9
47.5°	150.9	152.2	152.4	152.4
50°	142.0	141.7	142.2	142.0
52.5°	131.2	131.4	131.2	131.0
55°	120.0	120.1	119.8	120.0
57.5°	108.0	107.3	107.9	107.5
60°	95.0	93.6	93.3	92.6
62.5°	80.5	79.6	78.1	79.0
65°	67.8	67.1	66.6	67.3
67.5°	57.7	57.3	57.3	57.0
70°	50.0	49.5	49.5	49.1
72.5°	42.2	41.6	41.8	41.6
75°	32.4	31.5	31.5	31.7
77.5°	25.3	25.1	25.5	24.9
80°	19.8	19.6	19.4	19.9
82.5°	14.2	14.2	14.2	15.0
85°	9.3	8.9	9.3	8.9
87.5°	4.1	3.9	3.7	3.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)