

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: P243591

Luminaire Tested: **S124RDR-H350D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243591  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDR-H350D927-X4F0-XX-UDD-A-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

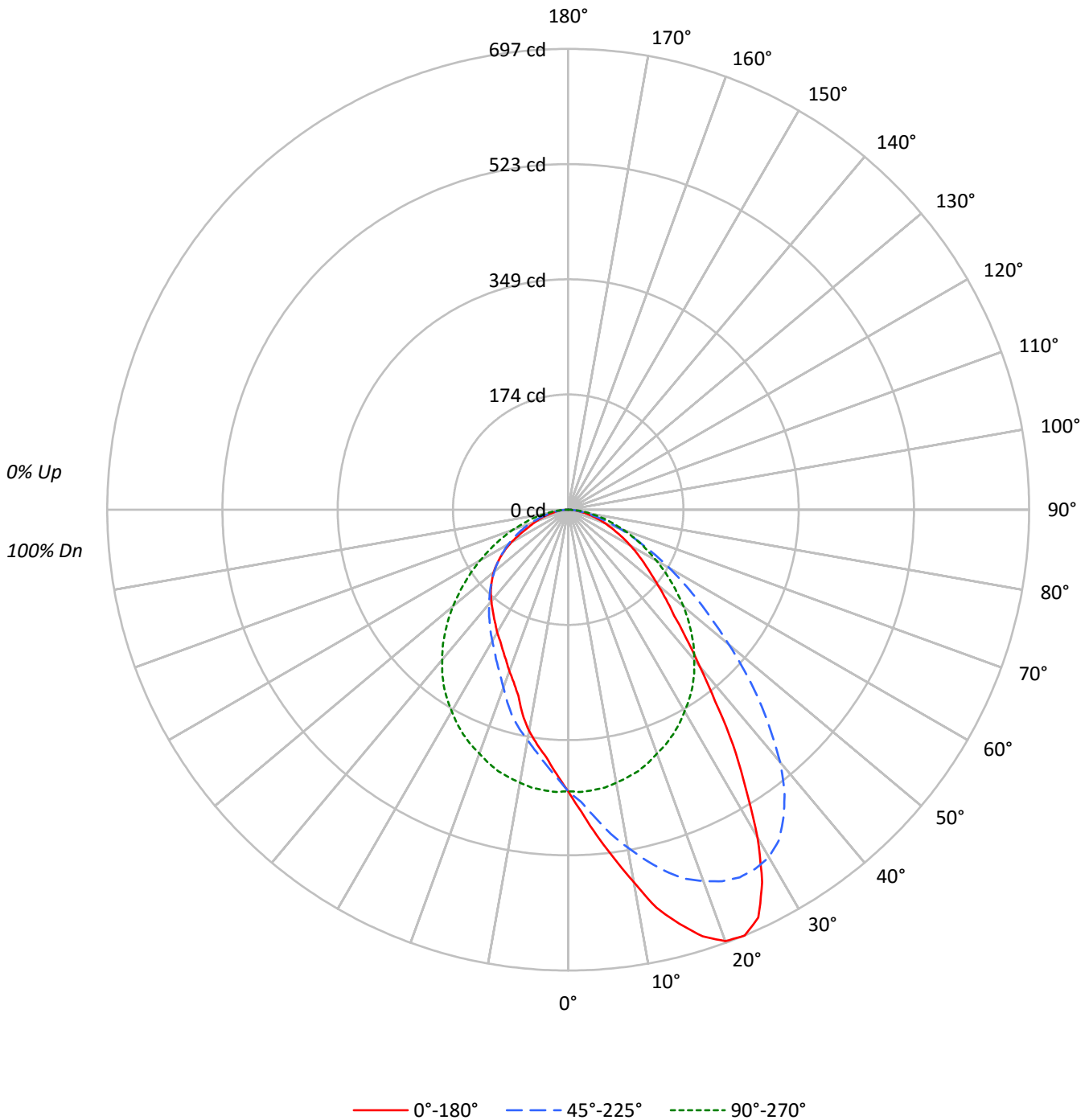
Lumens per Lamp: N/A  
Luminaire Lumens: 1099.0 lumens  
Efficiency: N/A  
Efficacy: 98.1 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39  
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (A<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			
1	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88					86				
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75					73				
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65					63				
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57					55				
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50					48				
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44					42				
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40					38				
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36					34				
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32					31				
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30					28				

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

	0°	90°	180°
0°	3785	3785	3785
5°	4409	3801	3356
10°	5164	3785	3068
15°	5966	3766	2680
20°	6569	3713	2457
25°	6674	3679	2296
30°	5875	3613	2203
35°	4714	3552	2130
40°	3587	3438	2097
45°	2847	3312	2072
50°	2445	3149	2036
55°	2159	2944	1937
60°	1934	2732	1774
65°	1702	2526	1493
70°	1518	2292	1344
75°	1322	2085	1195
80°	1121	1792	1106
85°	979	1540	1112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.3	3.8
10°-20°	125.3	11.4
20°-30°	195.5	17.8
30°-40°	218.1	19.8
40°-50°	196.0	17.8
50°-60°	154.9	14.1
60°-70°	102.9	9.4
70°-80°	51.6	4.7
80°-90°	13.4	1.2
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°	362.2	33.0
0°-40°	580.2	52.8
0°-60°	931.1	84.7
0°-90°	1099.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1099.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	426	426	426	426	426	
5°	494	467	426	387	376	49
15°	648	566	409	324	291	184
25°	680	613	375	255	234	305
35°	434	568	327	207	196	270
45°	226	409	264	166	165	179
55°	139	240	190	126	125	126
65°	81	123	120	82	71	81
75°	38	49	61	41	35	41
85°	10	10	15	11	11	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°	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8
2.5°	457.3	455.7	455.5	453.3	453.2	451.0	450.4	448.5	444.9	442.1	442.2
5°	494.1	492.8	492.6	490.5	489.8	487.2	483.0	478.0	472.2	467.4	464.3
7.5°	531.9	534.3	531.8	531.8	527.0	523.8	515.7	511.5	501.6	494.6	487.3
10°	572.1	574.2	573.2	571.2	564.9	558.5	550.0	541.9	529.8	518.8	511.5
12.5°	616.8	610.4	614.5	608.4	603.2	593.0	584.8	568.6	559.0	543.0	528.8
15°	648.3	645.9	645.7	641.5	635.9	624.6	615.8	598.9	582.5	565.8	549.7
17.5°	676.5	676.9	674.5	667.9	660.6	649.7	637.7	622.6	603.9	585.3	566.3
20°	694.4	694.6	692.9	689.5	681.5	671.6	659.3	639.6	618.3	597.8	578.7
22.5°	697.1	697.6	697.1	694.9	689.5	681.3	670.1	653.3	631.9	608.4	585.7
25°	680.5	682.2	682.3	685.3	682.5	679.3	671.1	657.0	637.2	613.4	588.6
27.5°	635.1	639.7	644.0	649.3	654.1	658.5	659.1	651.7	634.7	612.5	589.0
30°	572.4	577.9	586.5	592.1	607.1	616.5	629.3	632.1	624.0	606.9	584.2
32.5°	499.4	505.2	508.6	527.1	548.5	563.9	585.2	597.8	600.9	592.8	574.2
35°	434.4	435.4	437.9	459.0	480.2	503.6	529.9	551.8	566.8	567.6	558.5
37.5°	364.8	366.0	375.7	391.8	410.2	435.9	466.3	497.4	524.8	537.4	534.8
40°	309.1	308.7	319.2	333.1	351.0	377.7	409.1	443.1	472.2	498.6	504.9
42.5°	264.0	265.1	274.1	282.2	299.5	318.2	351.7	387.0	424.5	453.3	472.6
45°	226.5	229.5	235.6	243.3	256.2	273.4	300.8	335.9	374.2	408.9	432.0
47.5°	200.6	201.5	204.6	214.1	222.7	236.6	260.0	289.8	323.8	362.6	393.0
50°	176.8	178.7	179.9	185.5	194.0	207.3	225.3	247.6	281.2	316.9	354.8
52.5°	156.2	157.4	159.5	164.7	171.3	180.6	194.8	214.4	242.4	275.4	311.2
55°	139.3	139.5	141.6	145.3	150.4	157.5	171.1	185.2	210.1	240.1	272.6
57.5°	124.0	123.0	125.0	127.2	132.2	138.3	147.1	161.5	180.9	206.4	235.8
60°	108.8	109.6	109.4	111.9	114.6	120.7	128.2	137.6	153.5	176.9	201.8
62.5°	94.5	94.3	96.0	97.5	99.3	104.3	110.4	118.2	130.7	147.9	172.0
65°	80.9	81.2	82.6	83.7	85.7	88.9	93.5	99.8	109.8	123.0	143.3
67.5°	68.6	69.8	70.5	70.8	72.6	74.9	78.9	84.1	90.9	101.5	118.4
70°	58.4	58.7	59.0	60.2	61.0	62.3	65.3	68.2	74.3	82.1	94.3
72.5°	48.7	48.4	49.4	49.7	50.1	51.4	53.2	54.7	58.7	65.3	73.0
75°	38.5	38.6	38.8	39.3	40.6	40.8	41.6	43.3	46.1	48.7	53.9
77.5°	28.9	29.3	29.2	29.7	30.2	30.7	31.0	32.5	34.5	36.6	39.1
80°	21.9	21.9	21.9	22.2	21.9	23.0	23.0	23.5	24.0	25.0	26.9
82.5°	14.9	15.3	15.4	15.6	15.8	15.8	15.9	16.2	16.9	17.2	17.7
85°	9.6	9.3	9.5	9.5	9.5	9.5	9.8	10.1	10.1	10.3	10.8
87.5°	4.3	4.3	4.3	4.3	4.1	4.3	4.5	4.5	4.6	4.6	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



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8
2.5°	441.2	440.7	438.3	435.6	433.1	430.6	429.8	427.3	424.3	421.7	418.7
5°	461.0	457.0	451.5	445.9	440.1	434.8	430.6	426.0	420.7	414.4	409.4
7.5°	480.9	473.6	464.6	456.3	446.4	438.4	430.5	423.8	416.2	407.2	400.4
10°	500.3	488.2	477.2	464.1	451.5	440.6	430.5	419.3	409.2	399.6	390.2
12.5°	515.7	503.6	487.8	471.7	455.5	441.2	427.6	414.5	401.9	390.3	379.9
15°	533.3	515.9	496.5	478.7	456.5	438.9	423.3	409.2	394.8	380.7	369.3
17.5°	546.2	525.6	501.6	481.2	459.8	437.9	419.2	401.4	384.9	370.1	358.3
20°	556.1	531.8	507.7	481.9	456.3	433.9	412.9	392.5	375.7	359.7	347.2
22.5°	560.5	534.8	508.1	480.0	452.8	427.5	405.6	384.5	365.6	349.0	334.6
25°	562.3	534.1	506.4	474.6	447.0	421.2	396.8	375.1	355.7	336.9	322.7
27.5°	560.8	530.6	498.8	468.8	437.6	412.2	386.4	364.3	344.1	326.0	310.1
30°	556.8	522.7	491.0	457.3	427.3	400.6	375.4	352.0	331.6	313.2	297.5
32.5°	546.5	513.7	477.7	444.9	412.6	386.2	363.3	340.3	319.5	300.3	285.0
35°	533.8	501.6	464.0	429.6	397.6	370.9	347.9	327.3	306.9	286.5	270.9
37.5°	517.7	485.0	448.7	411.7	380.4	354.5	333.5	312.7	292.5	273.8	256.4
40°	496.0	466.1	429.6	392.5	361.0	336.1	315.4	296.3	278.4	260.0	241.3
42.5°	468.9	446.2	408.6	371.9	341.1	316.4	298.0	280.9	263.6	244.7	227.8
45°	440.1	420.7	386.5	349.5	320.2	296.1	278.6	263.5	247.2	230.5	212.7
47.5°	407.6	393.1	363.6	327.0	296.1	275.6	259.3	245.6	230.8	215.9	198.6
50°	370.9	362.1	336.9	303.6	274.3	253.4	239.9	227.7	215.1	200.1	185.4
52.5°	334.3	332.6	309.1	279.7	252.0	232.6	219.5	208.3	198.0	183.9	171.5
55°	295.8	300.8	281.2	254.2	229.5	210.8	199.1	190.0	181.1	169.1	157.2
57.5°	261.7	267.3	253.9	229.0	205.9	190.0	180.1	171.8	164.0	153.0	145.1
60°	223.9	234.1	227.0	204.3	183.9	169.6	160.3	153.7	147.2	137.8	130.8
62.5°	194.0	201.1	197.0	180.1	162.0	150.4	142.1	136.0	130.8	123.5	116.7
65°	162.0	171.0	168.8	157.7	141.8	131.2	124.9	120.1	114.7	108.9	103.3
67.5°	133.2	142.4	141.9	134.3	122.5	113.7	107.8	104.3	100.0	94.3	90.9
70°	107.1	115.7	116.1	112.3	104.0	95.7	91.4	88.2	84.9	80.8	78.3
72.5°	83.2	91.0	92.4	90.5	85.2	79.8	75.9	73.8	71.0	67.5	65.3
75°	62.2	67.8	71.0	70.1	68.0	64.3	62.2	60.7	57.9	55.4	53.6
77.5°	44.3	48.7	51.9	53.2	52.2	50.7	48.7	47.6	44.6	43.4	42.4
80°	29.7	33.7	36.5	37.3	37.8	37.5	35.7	35.0	33.5	33.0	32.0
82.5°	18.2	20.4	22.4	24.5	25.5	25.5	24.5	24.7	23.4	22.7	22.4
85°	11.1	11.6	11.9	13.6	14.9	15.4	14.9	15.1	14.6	14.1	13.6
87.5°	5.1	5.1	5.3	5.6	6.0	7.0	7.3	7.8	7.1	7.1	6.0
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°	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8	425.8
2.5°	416.9	414.7	413.0	410.4	408.2	404.8	403.6	403.6	404.3	403.4	404.3
5°	405.9	401.9	397.6	393.8	389.7	386.7	383.7	383.0	382.7	380.7	380.9
7.5°	395.0	389.7	384.2	379.2	374.1	369.4	366.3	365.0	363.8	362.5	361.0
10°	383.2	377.1	370.6	365.0	360.0	353.7	350.5	349.5	346.2	345.6	343.2
12.5°	370.8	364.5	358.0	350.7	345.9	339.8	335.1	333.0	329.8	327.5	324.0
15°	361.0	353.0	344.4	337.3	331.0	324.2	317.9	313.7	309.6	303.1	300.0
17.5°	348.9	339.8	332.3	324.7	315.5	305.6	298.1	292.0	287.5	282.2	279.1
20°	335.8	327.3	318.0	307.3	297.6	286.4	279.6	274.4	270.9	267.8	266.1
22.5°	324.2	314.4	301.6	291.3	277.9	269.0	263.5	260.2	256.8	253.5	251.9
25°	311.6	300.1	284.5	271.9	261.8	254.9	249.6	246.4	242.9	240.9	238.4
27.5°	299.1	284.4	268.8	257.3	249.4	241.3	236.8	234.3	231.6	228.8	226.8
30°	284.0	267.3	254.4	243.9	236.0	229.2	225.8	222.2	219.9	218.2	217.1
32.5°	268.3	252.2	240.4	231.5	223.7	218.5	214.4	212.1	210.1	208.3	206.9
35°	253.5	237.9	228.0	219.4	212.9	207.1	204.0	201.8	200.1	198.6	198.0
37.5°	238.9	225.7	214.9	208.1	201.3	196.7	193.7	191.7	190.7	189.2	189.4
40°	224.5	212.6	204.0	196.2	189.9	185.9	183.6	182.7	181.2	180.7	181.2
42.5°	211.6	200.6	192.3	185.1	179.6	175.8	173.9	172.8	172.3	172.1	172.3
45°	199.0	188.7	180.7	174.8	169.1	165.7	164.2	163.3	162.8	163.7	163.8
47.5°	186.4	177.1	170.0	163.0	158.4	155.9	154.4	153.7	154.2	154.5	155.7
50°	173.9	165.3	157.9	151.7	148.1	145.8	145.3	144.1	144.9	145.4	146.2
52.5°	161.3	153.5	146.9	141.1	137.3	135.8	134.6	134.1	135.3	135.3	136.1
55°	148.6	141.8	135.6	130.3	127.3	125.5	124.7	124.0	124.7	124.9	124.7
57.5°	136.6	130.2	123.7	119.2	116.7	114.7	113.9	113.6	113.4	114.1	113.9
60°	124.0	117.9	112.8	108.1	105.6	104.5	102.6	103.0	103.0	103.0	101.3
62.5°	111.4	105.3	100.8	97.7	94.7	92.7	92.4	91.9	90.9	90.7	88.5
65°	98.5	93.9	90.0	86.9	83.9	82.2	81.7	80.3	79.1	76.9	75.4
67.5°	86.6	83.2	78.8	76.1	73.6	71.6	69.8	68.6	66.3	64.2	62.8
70°	74.6	71.1	68.2	65.3	62.8	61.0	58.9	56.7	55.2	53.9	52.9
72.5°	62.7	59.7	57.2	54.6	51.9	50.1	48.4	46.8	46.1	45.4	44.9
75°	51.6	48.7	46.4	44.3	42.8	40.6	39.8	39.1	38.5	37.6	36.6
77.5°	40.8	38.6	36.8	35.0	33.7	32.5	31.8	29.8	28.2	27.9	27.5
80°	30.3	28.7	27.5	26.2	24.7	23.0	22.6	21.9	21.6	21.6	21.7
82.5°	21.2	20.2	18.9	17.7	17.2	16.6	16.6	16.4	16.2	16.4	16.4
85°	12.9	11.6	11.3	11.1	11.3	11.3	11.3	11.3	11.1	11.3	10.9
87.5°	5.6	6.1	6.3	5.8	6.0	5.6	5.8	5.8	5.8	6.0	5.8
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: P243591

CATALOG NUMBER: S124RDR-H350D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	425.8	425.8	425.8	425.8
2.5°	403.3	403.3	401.6	400.3
5°	380.5	378.4	378.1	376.1
7.5°	359.3	359.0	358.2	358.2
10°	342.4	341.2	340.1	339.9
12.5°	318.5	320.2	318.2	317.7
15°	297.6	296.3	294.7	291.2
17.5°	278.2	275.8	275.1	273.6
20°	263.0	261.2	260.5	259.7
22.5°	248.6	248.2	246.2	245.7
25°	237.9	236.3	235.0	234.1
27.5°	226.3	225.2	224.5	223.2
30°	215.7	215.4	214.6	214.6
32.5°	206.1	205.1	205.1	204.9
35°	197.3	197.7	196.7	196.3
37.5°	189.0	188.5	188.7	188.4
40°	180.9	180.6	180.6	180.7
42.5°	172.6	172.8	173.1	173.1
45°	164.3	164.5	164.8	164.8
47.5°	156.5	156.2	156.5	156.2
50°	146.6	147.6	147.4	147.2
52.5°	136.5	136.1	136.8	136.6
55°	125.5	125.0	125.7	125.0
57.5°	113.3	113.4	113.4	113.1
60°	101.0	100.5	99.8	99.8
62.5°	86.7	85.2	84.2	84.9
65°	73.0	71.8	71.5	71.0
67.5°	62.0	60.7	60.2	60.0
70°	52.6	51.9	51.7	51.7
72.5°	44.6	44.6	44.1	43.8
75°	36.3	35.7	34.8	34.8
77.5°	27.2	27.0	26.9	26.9
80°	21.2	21.2	21.4	21.6
82.5°	15.9	16.1	16.2	16.2
85°	10.8	10.8	10.9	10.9
87.5°	5.8	5.8	5.8	5.6
90°	0.0	0.0	0.0	0.0

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