

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: P332881-830

Luminaire Tested: **S124RDIP-S350D810U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332881-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S350D810U830-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3992.4 lumens  
Efficiency: N/A  
Efficacy: 128.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

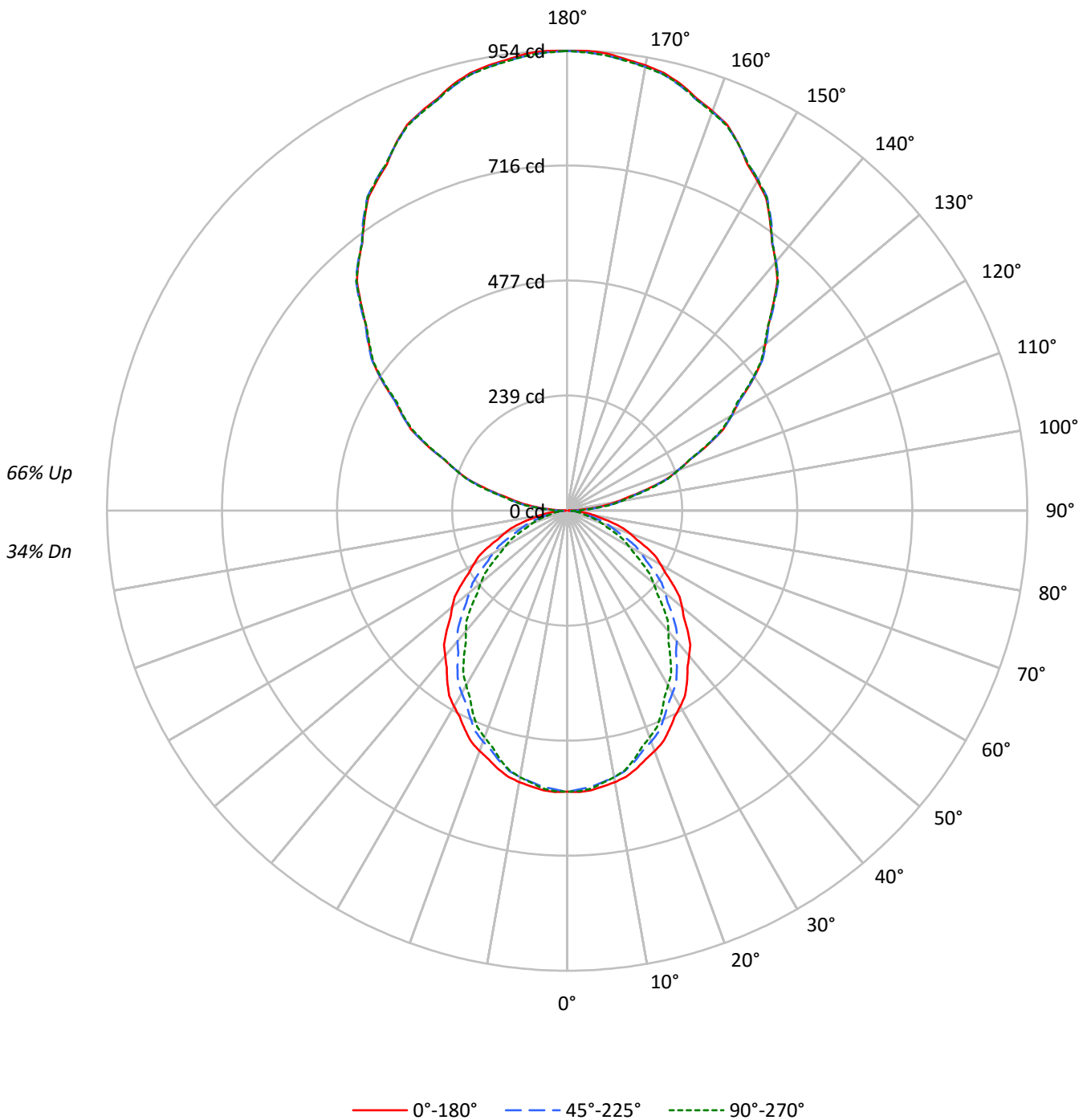
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	94	90	86	83	85	82	78	76	65	63	61	50	49	48	37	36	35
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30
3	79	69	62	57	71	63	57	52	51	46	43	39	37	34	29	27	26
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	23	21	19
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15
8	52	40	33	27	47	37	30	25	30	25	21	24	20	18	18	15	14
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11

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

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.7	1.4
10°-20°	152.6	3.8
20°-30°	220.4	5.5
30°-40°	249.8	6.3
40°-50°	241.2	6.0
50°-60°	200.6	5.0
60°-70°	138.5	3.5
70°-80°	70.2	1.8
80°-90°	20.9	0.5
90°-100°	62.8	1.6
100°-110°	186.2	4.7
110°-120°	316.0	7.9
120°-130°	416.6	10.4
130°-140°	467.9	11.7
140°-150°	459.8	11.5
150°-160°	386.7	9.7
160°-170°	257.3	6.4
170°-180°	90.1	2.3
0°-30°	427.8	10.7
0°-40°	677.6	17.0
0°-60°	1119.4	28.0
0°-90°	1349.0	33.8
90°-120°	565.0	14.2
90°-150°	1909.3	47.8
90°-180°	2643.0	66.2
0°-180°	3992.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	2	10	16	20	22	4
95°	44	51	56	58	58	49
105°	172	173	175	178	180	182
115°	321	321	320	319	318	317
125°	468	468	467	466	464	417
135°	604	608	608	606	604	467
145°	733	736	737	736	734	459
155°	840	840	839	842	839	386
165°	914	912	911	915	912	258
175°	951	948	947	952	947	90
180°	953	953	953	953	953	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.7	8.4	8.1	7.8	7.5	7.5	7.7	7.9	8.0	8.2	8.4
90°	2.2	4.1	5.8	7.6	9.4	10.9	12.3	13.6	14.9	16.2	17.2
92.5°	15.7	17.8	19.9	22.0	24.0	25.5	26.4	27.3	28.3	29.2	29.8
95°	44.2	45.7	47.1	48.6	50.1	51.5	52.6	53.7	54.9	56.0	56.5
97.5°	77.2	78.4	79.6	80.8	81.9	83.2	84.5	85.9	87.2	88.6	89.2
100°	103.2	103.8	104.4	105.1	105.8	106.9	108.3	109.8	111.2	112.7	113.1
102.5°	130.3	130.5	130.8	131.1	131.3	132.1	133.5	134.8	136.2	137.5	138.0
105°	171.7	171.8	172.0	172.2	172.4	172.8	173.4	174.1	174.7	175.4	175.9
107.5°	215.2	215.4	215.6	215.7	215.9	216.1	216.2	216.3	216.4	216.5	217.0
110°	244.7	245.0	245.2	245.6	245.9	246.0	245.9	245.7	245.5	245.3	245.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.3	275.3	275.4	275.5	275.6	275.4	275.1	274.8	274.6	274.3	274.2
115°	321.3	321.3	321.3	321.3	321.3	321.1	320.7	320.5	320.1	319.8	319.6
117.5°	364.6	364.8	364.9	365.0	365.1	365.0	364.9	364.6	364.4	364.2	363.6
120°	393.5	394.2	394.8	395.5	396.2	396.2	395.7	395.2	394.7	394.3	393.4
122.5°	423.6	423.8	424.0	424.3	424.6	424.6	424.4	424.1	424.0	423.7	423.1
125°	467.9	467.9	467.9	467.9	467.9	467.8	467.7	467.5	467.3	467.2	466.8
127.5°	508.1	508.6	509.2	509.6	510.1	510.2	509.9	509.7	509.4	509.2	508.9
130°	536.4	537.0	537.4	537.9	538.4	538.7	538.7	538.7	538.7	538.7	538.3
132.5°	565.3	565.7	566.1	566.4	566.8	566.8	566.8	566.7	566.5	566.4	566.0
135°	603.5	604.5	605.5	606.4	607.5	607.9	607.9	607.9	607.9	607.9	607.6
137.5°	645.1	645.5	645.9	646.4	646.9	647.2	647.5	647.8	648.0	648.3	647.9
140°	672.8	673.1	673.4	673.7	674.1	674.2	674.2	674.2	674.2	674.2	674.1
142.5°	698.1	698.4	698.8	699.1	699.5	699.6	699.4	699.3	699.1	699.0	699.0
145°	733.2	733.9	734.5	735.2	735.8	736.2	736.4	736.5	736.7	736.9	736.7
147.5°	768.0	768.7	769.5	770.3	771.1	771.5	771.3	771.2	771.0	770.9	770.8
150°	789.2	789.9	790.5	791.2	791.8	792.1	792.1	792.1	792.1	792.1	792.1
152.5°	809.3	809.6	810.0	810.4	810.8	811.1	811.2	811.3	811.4	811.6	812.0
155°	840.0	840.0	840.0	840.0	840.0	839.9	839.8	839.6	839.4	839.3	839.9
157.5°	866.0	865.6	865.3	865.1	864.8	864.6	864.6	864.6	864.5	864.5	865.0
160°	881.3	881.1	881.0	880.8	880.6	880.4	880.3	880.1	880.0	879.9	880.3
162.5°	895.4	895.0	894.6	894.2	893.7	893.4	893.2	893.2	893.0	892.8	893.7
165°	914.5	914.0	913.5	912.9	912.5	912.1	911.7	911.4	911.1	910.8	911.7
167.5°	929.1	928.3	927.7	927.0	926.3	926.0	926.0	926.0	926.0	926.0	927.1
170°	937.3	936.5	935.7	934.8	934.1	933.7	933.9	934.1	934.2	934.3	935.3
172.5°	943.2	942.5	941.8	941.1	940.5	940.1	940.2	940.2	940.2	940.3	941.3
175°	951.3	950.5	949.6	948.9	948.0	947.5	947.3	947.2	947.1	946.9	948.0
177.5°	953.9	953.3	952.6	952.0	951.3	951.0	951.0	951.0	951.0	951.0	951.9
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	8.5	8.6	8.7	8.9	9.0	9.1	9.2	9.4
90°	18.2	19.1	20.2	20.8	21.1	21.5	21.8	22.1
92.5°	30.3	30.9	31.6	32.0	32.1	32.3	32.5	32.7
95°	57.0	57.5	58.0	58.2	58.2	58.2	58.2	58.2
97.5°	89.7	90.3	91.0	91.2	91.2	91.2	91.2	91.2
100°	113.4	113.8	114.0	114.2	114.2	114.2	114.2	114.2
102.5°	138.5	138.8	139.3	139.6	139.8	139.9	140.1	140.2
105°	176.3	176.8	177.3	177.9	178.3	178.8	179.3	179.8
107.5°	217.4	217.8	218.3	218.6	218.5	218.5	218.5	218.4
110°	244.7	244.4	244.0	244.1	244.7	245.2	245.6	246.1





TEST NUMBER: P332881-830

CATALOG NUMBER: S124RDIP-S350D810U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	274.1	274.1	274.0	274.0	274.1	274.2	274.3	274.4
115°	319.4	319.3	319.1	319.0	318.9	318.7	318.5	318.3
117.5°	363.1	362.5	361.9	361.5	361.2	360.8	360.5	360.1
120°	392.6	391.7	391.0	390.7	391.1	391.3	391.7	392.0
122.5°	422.5	422.1	421.5	420.9	420.3	419.7	419.1	418.6
125°	466.6	466.2	465.9	465.5	465.2	464.9	464.6	464.2
127.5°	508.5	508.2	507.8	507.6	507.3	507.1	506.8	506.5
130°	538.0	537.6	537.3	536.9	536.2	535.6	534.9	534.2
132.5°	565.7	565.3	565.1	564.8	564.5	564.2	563.9	563.7
135°	607.3	606.9	606.6	606.1	605.7	605.2	604.7	604.3
137.5°	647.4	647.1	646.6	646.4	646.5	646.6	646.7	646.9
140°	673.9	673.7	673.5	673.4	673.3	673.1	672.9	672.8
142.5°	698.9	698.9	698.9	698.8	698.8	698.8	698.7	698.7
145°	736.5	736.4	736.2	735.8	735.4	734.9	734.4	734.0
147.5°	770.6	770.5	770.3	770.2	770.1	769.9	769.8	769.6
150°	792.1	792.1	792.1	792.0	791.9	791.7	791.5	791.4
152.5°	812.4	812.8	813.1	813.1	812.8	812.3	811.9	811.4
155°	840.6	841.2	841.9	841.9	841.2	840.6	839.9	839.3
157.5°	865.4	866.0	866.5	866.4	865.9	865.3	864.8	864.2
160°	880.8	881.3	881.7	881.7	880.8	880.0	879.2	878.4
162.5°	894.6	895.4	896.4	896.4	895.5	894.8	893.9	893.1
165°	912.8	913.7	914.7	914.8	914.2	913.5	912.9	912.3
167.5°	928.0	929.1	930.0	930.0	929.0	927.9	927.0	926.0
170°	936.3	937.3	938.3	938.2	937.1	935.9	934.7	933.6
172.5°	942.4	943.6	944.7	944.7	943.6	942.4	941.2	940.1
175°	949.1	950.3	951.5	951.5	950.3	949.1	948.0	946.9
177.5°	952.8	953.8	954.7	954.6	953.6	952.5	951.5	950.4
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7

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