

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: P332720-830

Luminaire Tested: **S124DIW-S350D470U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332720-830
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: S124DIW-S350D470U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2962.6 lumens
Efficiency: N/A
Efficacy: 128.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

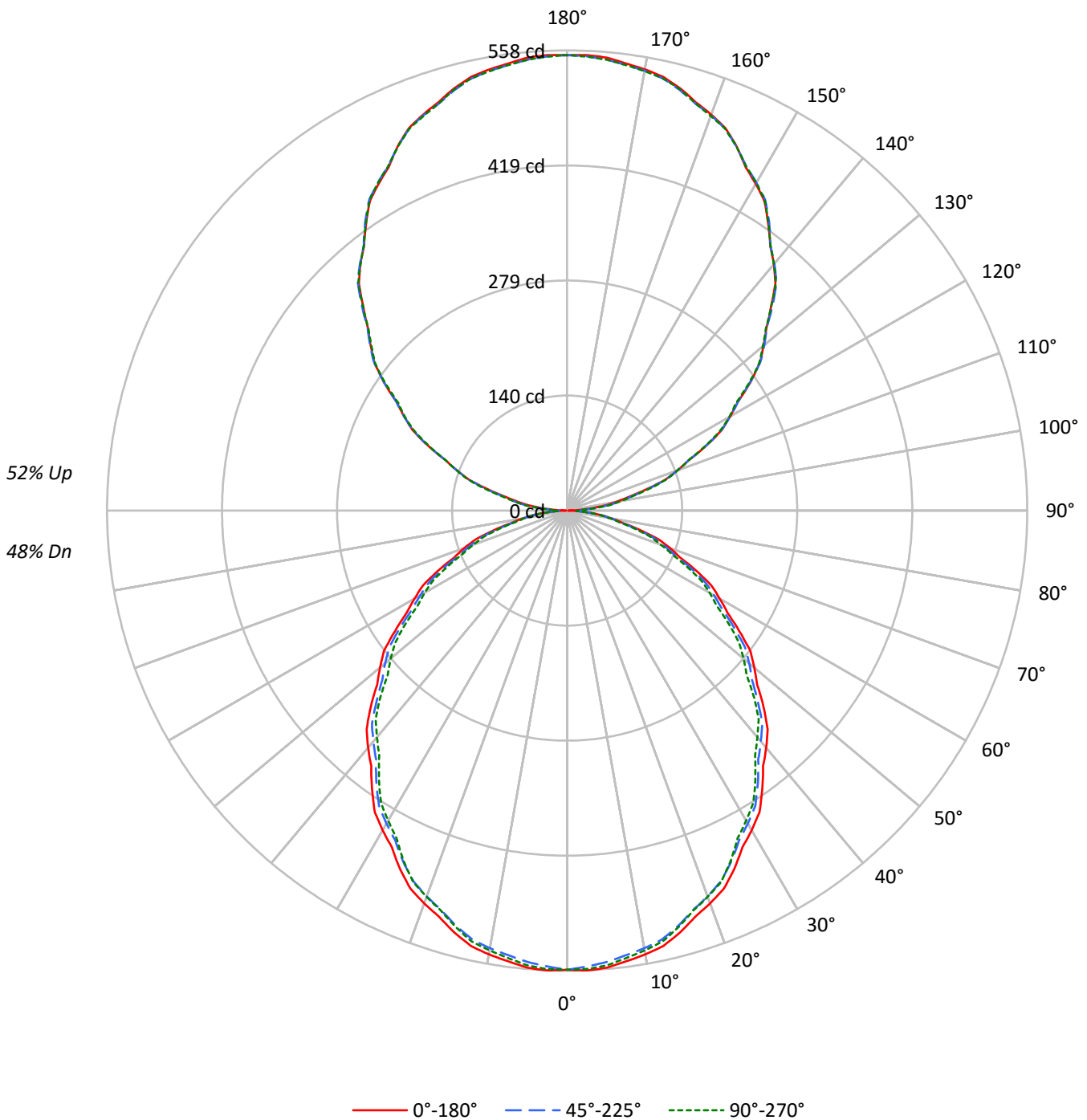
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	56	48	47	46	41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	58	51	46	50	44	40	41	37	34	34	31	28	25
5	68	56	48	42	62	52	45	40	44	39	34	37	33	30	30	27	25	21
6	63	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	31	26	30	26	23	25	22	19	17
8	54	41	34	28	49	38	32	27	33	27	24	28	24	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	13
10	47	35	27	23	43	32	26	21	28	23	19	24	19	17	20	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4495	4495	4495
5°	4508	4454	4486
10°	4480	4418	4440
15°	4425	4355	4367
20°	4354	4277	4281
25°	4272	4188	4177
30°	4172	4084	4047
35°	4066	3975	3921
40°	3958	3851	3780
45°	3846	3729	3658
50°	3720	3620	3508
55°	3586	3478	3365
60°	3450	3321	3219
65°	3299	3171	3043
70°	3127	2969	2854
75°	2866	2729	2658
80°	2552	2450	2385
85°	2232	2149	2103



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	1.8
10°-20°	147.7	5.0
20°-30°	217.4	7.3
30°-40°	252.8	8.5
40°-50°	252.8	8.5
50°-60°	221.1	7.5
60°-70°	164.2	5.5
70°-80°	93.3	3.1
80°-90°	28.6	1.0
90°-100°	36.4	1.2
100°-110°	107.9	3.6
110°-120°	183.1	6.2
120°-130°	241.5	8.2
130°-140°	271.2	9.2
140°-150°	266.5	9.0
150°-160°	224.1	7.6
160°-170°	149.1	5.0
170°-180°	52.2	1.8
0°-30°	417.6	14.1
0°-40°	670.4	22.6
0°-60°	1144.3	38.6
0°-90°	1430.4	48.3
90°-120°	327.5	11.1
90°-150°	1106.7	37.4
90°-180°	1532.0	51.7
0°-180°	2962.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	556	554	550	554	554	53
15°	530	528	521	524	522	149
25°	480	476	470	471	469	221
35°	413	409	403	400	398	258
45°	337	333	327	322	320	260
55°	255	253	247	242	239	228
65°	173	170	166	162	159	171
75°	92	90	88	86	85	98
85°	24	24	23	23	23	27
90°	1	6	9	12	13	3
95°	26	29	32	34	34	29
105°	100	100	102	103	104	106
115°	186	186	185	185	184	184
125°	271	271	271	270	269	242
135°	350	352	352	352	350	270
145°	425	427	427	427	425	266
155°	487	487	486	488	486	224
165°	530	529	528	530	529	149
175°	551	549	549	552	549	52
180°	552	552	552	552	552	



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	558.2	558.0	557.7	557.5	557.2	556.7	555.8	555.0	554.1	553.2	554.0
5°	556.3	555.9	555.5	555.2	554.8	554.0	552.9	551.9	550.7	549.6	550.7
7.5°	551.2	550.7	550.4	550.0	549.6	548.7	547.5	546.4	545.2	543.9	544.8
10°	546.5	546.1	545.7	545.4	545.0	544.1	542.8	541.5	540.3	538.9	539.7
12.5°	540.5	540.1	539.7	539.2	538.9	538.0	536.6	535.3	533.9	532.5	533.4
15°	529.5	529.1	528.8	528.4	528.0	527.1	525.6	524.1	522.5	521.1	521.7
17.5°	516.4	515.9	515.5	515.0	514.4	513.5	512.1	510.7	509.3	507.8	508.2
20°	506.8	506.3	505.9	505.3	504.8	503.9	502.4	500.9	499.4	497.9	498.2
22.5°	496.4	495.8	495.1	494.5	493.8	492.8	491.3	489.8	488.3	486.8	487.4
25°	479.6	478.9	478.2	477.5	476.8	475.8	474.4	473.0	471.6	470.2	470.3
27.5°	460.3	459.6	458.9	458.2	457.5	456.5	455.2	453.9	452.6	451.3	451.1
30°	447.5	446.7	445.9	445.1	444.3	443.3	442.0	440.6	439.4	438.1	437.7
32.5°	433.9	433.2	432.4	431.8	431.0	430.0	428.7	427.3	425.9	424.5	424.0
35°	412.6	412.0	411.3	410.6	409.9	408.9	407.5	406.0	404.7	403.3	402.7
37.5°	390.3	389.6	389.0	388.4	387.8	386.7	385.2	383.7	382.2	380.7	379.9
40°	375.6	374.8	374.1	373.2	372.5	371.4	369.9	368.3	366.8	365.4	364.4
42.5°	360.0	359.5	359.0	358.5	358.1	356.9	355.3	353.6	352.0	350.4	349.2
45°	336.9	336.1	335.5	334.8	334.0	332.9	331.3	329.7	328.2	326.6	325.5
47.5°	312.6	312.2	311.7	311.2	310.8	309.8	308.3	306.8	305.4	303.9	302.7
50°	296.2	295.9	295.5	295.0	294.6	293.8	292.4	291.0	289.5	288.2	286.8
52.5°	280.2	279.7	279.2	278.7	278.2	277.3	275.8	274.4	272.9	271.5	270.2
55°	254.8	254.5	254.1	253.8	253.5	252.7	251.3	250.0	248.5	247.1	246.0
57.5°	230.5	230.2	229.8	229.5	229.1	228.3	226.9	225.6	224.1	222.8	221.7
60°	213.7	213.2	212.7	212.2	211.7	210.8	209.5	208.2	207.0	205.7	204.8
62.5°	197.3	196.9	196.4	196.0	195.6	194.7	193.3	192.0	190.6	189.3	188.4
65°	172.7	172.2	171.6	171.2	170.7	169.9	168.9	168.0	166.9	166.0	164.9
67.5°	147.9	147.4	146.9	146.5	146.0	145.3	144.4	143.5	142.5	141.5	140.5
70°	132.5	131.8	131.1	130.4	129.7	128.9	128.2	127.4	126.6	125.8	125.0
72.5°	116.1	115.4	114.7	114.0	113.3	112.6	112.0	111.4	110.7	110.1	109.4
75°	91.9	91.4	91.0	90.4	89.9	89.4	89.0	88.4	87.9	87.5	87.1
77.5°	68.8	68.6	68.3	68.1	68.0	67.6	67.2	66.7	66.3	65.9	65.7
80°	54.9	54.6	54.3	54.0	53.7	53.4	53.3	53.1	52.9	52.7	52.4
82.5°	41.3	41.2	41.0	40.9	40.7	40.6	40.6	40.6	40.5	40.5	40.4
85°	24.1	24.1	24.1	24.1	24.1	24.0	23.8	23.6	23.4	23.2	23.2
87.5°	9.5	9.7	9.8	9.9	10.1	10.2	10.3	10.3	10.4	10.5	10.6
90°	1.3	2.4	3.4	4.4	5.5	6.3	7.2	7.9	8.7	9.4	10.0
92.5°	9.1	10.4	11.5	12.7	13.9	14.8	15.4	15.8	16.4	16.9	17.2
95°	25.6	26.5	27.3	28.2	29.0	29.8	30.4	31.1	31.8	32.4	32.7
97.5°	44.8	45.4	46.1	46.8	47.5	48.3	49.0	49.8	50.5	51.4	51.7
100°	59.8	60.1	60.5	60.9	61.4	61.9	62.8	63.6	64.5	65.3	65.5
102.5°	75.5	75.7	75.8	76.0	76.2	76.6	77.4	78.1	78.9	79.7	79.9
105°	99.5	99.6	99.7	99.8	99.9	100.1	100.5	100.9	101.2	101.6	101.9
107.5°	124.7	124.8	125.0	125.1	125.2	125.3	125.4	125.4	125.5	125.5	125.7
110°	141.8	141.9	142.1	142.3	142.5	142.6	142.5	142.4	142.3	142.2	142.0



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.6	159.6	159.7	159.7	159.8	159.7	159.5	159.3	159.1	159.0	158.9
115°	186.2	186.2	186.2	186.2	186.2	186.2	186.0	185.8	185.6	185.4	185.3
117.5°	211.3	211.4	211.5	211.6	211.6	211.6	211.5	211.3	211.2	211.0	210.8
120°	228.1	228.5	228.8	229.2	229.6	229.6	229.3	229.0	228.8	228.5	228.0
122.5°	245.5	245.6	245.8	245.9	246.1	246.1	246.0	245.8	245.7	245.6	245.2
125°	271.2	271.2	271.2	271.2	271.2	271.2	271.1	271.0	270.9	270.8	270.6
127.5°	294.5	294.8	295.1	295.4	295.7	295.8	295.6	295.4	295.3	295.1	294.9
130°	310.9	311.2	311.5	311.8	312.1	312.2	312.2	312.2	312.2	312.2	312.0
132.5°	327.6	327.9	328.1	328.3	328.5	328.6	328.5	328.4	328.4	328.3	328.1
135°	349.8	350.3	350.9	351.5	352.0	352.3	352.3	352.3	352.3	352.3	352.1
137.5°	373.9	374.2	374.4	374.7	374.9	375.1	375.3	375.5	375.6	375.8	375.5
140°	389.9	390.1	390.3	390.5	390.7	390.8	390.8	390.8	390.8	390.8	390.7
142.5°	404.6	404.8	405.0	405.2	405.4	405.5	405.4	405.3	405.2	405.1	405.1
145°	425.0	425.4	425.7	426.1	426.5	426.7	426.8	426.9	427.0	427.1	427.0
147.5°	445.2	445.5	446.0	446.5	447.0	447.1	447.0	447.0	447.0	446.9	446.8
150°	457.4	457.8	458.2	458.5	458.9	459.1	459.1	459.1	459.1	459.1	459.1
152.5°	469.0	469.3	469.5	469.8	470.0	470.1	470.1	470.2	470.3	470.4	470.6
155°	486.9	486.9	486.9	486.9	486.9	486.8	486.7	486.6	486.5	486.4	486.8
157.5°	501.9	501.7	501.6	501.4	501.2	501.1	501.1	501.1	501.1	501.1	501.3
160°	510.9	510.8	510.7	510.6	510.5	510.4	510.3	510.2	510.1	510.0	510.3
162.5°	519.1	518.8	518.5	518.3	518.0	517.8	517.7	517.6	517.6	517.5	518.0
165°	530.0	529.7	529.4	529.1	528.9	528.7	528.5	528.3	528.1	527.9	528.5
167.5°	538.5	538.1	537.7	537.3	536.9	536.7	536.7	536.8	536.8	536.8	537.3
170°	543.3	542.8	542.3	541.9	541.4	541.2	541.3	541.4	541.5	541.6	542.2
172.5°	546.7	546.3	545.9	545.5	545.1	544.9	544.9	545.0	545.0	545.0	545.6
175°	551.4	550.9	550.4	550.0	549.5	549.2	549.1	549.0	548.9	548.8	549.5
177.5°	552.9	552.5	552.1	551.8	551.4	551.2	551.2	551.2	551.2	551.2	551.8
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	554.8	555.6	556.4	556.8	556.7	556.6	556.5	556.4
5°	551.9	552.9	554.0	554.4	554.2	554.0	553.8	553.6
7.5°	545.6	546.6	547.4	547.8	547.7	547.5	547.4	547.3
10°	540.5	541.3	542.2	542.4	542.2	542.0	541.8	541.6
12.5°	534.2	535.1	536.0	536.3	536.0	535.7	535.5	535.2
15°	522.3	522.8	523.5	523.6	523.3	523.0	522.7	522.5
17.5°	508.6	509.0	509.3	509.4	509.3	509.1	508.9	508.7
20°	498.5	498.8	499.1	499.2	498.9	498.7	498.5	498.3
22.5°	487.9	488.4	489.0	489.1	488.7	488.3	488.0	487.7
25°	470.4	470.5	470.6	470.5	470.0	469.7	469.3	468.9
27.5°	450.8	450.6	450.3	450.0	449.5	449.0	448.5	448.0
30°	437.3	437.0	436.5	436.1	435.5	435.1	434.6	434.1
32.5°	423.6	423.1	422.6	422.2	421.7	421.1	420.7	420.2
35°	401.9	401.2	400.5	399.9	399.4	399.0	398.4	397.9
37.5°	379.2	378.4	377.7	377.0	376.4	375.7	375.0	374.4
40°	363.4	362.4	361.5	360.7	360.1	359.7	359.2	358.7
42.5°	348.1	346.9	345.8	345.1	344.7	344.4	344.0	343.7
45°	324.4	323.3	322.3	321.5	321.2	320.9	320.7	320.4
47.5°	301.4	300.2	299.0	298.0	297.3	296.5	295.8	295.0
50°	285.4	284.1	282.7	281.6	281.1	280.5	279.8	279.3
52.5°	269.0	267.8	266.6	265.5	264.8	264.0	263.3	262.5
55°	244.8	243.6	242.4	241.5	240.9	240.3	239.7	239.1
57.5°	220.6	219.4	218.3	217.4	216.9	216.3	215.7	215.1
60°	203.9	203.0	202.1	201.4	201.0	200.4	199.9	199.4
62.5°	187.7	186.8	186.0	185.3	184.8	184.4	183.9	183.3
65°	164.0	163.0	162.0	161.3	160.8	160.2	159.8	159.3
67.5°	139.6	138.6	137.7	137.1	137.0	136.9	136.8	136.6
70°	124.2	123.5	122.6	122.1	121.8	121.5	121.2	120.9
72.5°	108.9	108.2	107.5	107.1	106.8	106.5	106.2	105.9
75°	86.6	86.2	85.9	85.6	85.5	85.4	85.3	85.2
77.5°	65.6	65.5	65.4	65.2	64.9	64.7	64.4	64.2
80°	52.2	52.0	51.8	51.7	51.6	51.5	51.4	51.3
82.5°	40.2	40.2	40.1	40.0	39.9	39.7	39.6	39.5
85°	23.2	23.2	23.2	23.2	23.1	23.0	22.8	22.7
87.5°	10.7	10.7	10.9	10.9	11.0	11.0	11.1	11.1
90°	10.6	11.1	11.7	12.1	12.3	12.4	12.6	12.8
92.5°	17.6	17.9	18.3	18.5	18.7	18.8	18.9	18.9
95°	33.0	33.3	33.6	33.7	33.7	33.7	33.7	33.7
97.5°	52.0	52.4	52.7	52.9	52.9	52.9	52.9	52.9
100°	65.7	65.9	66.1	66.2	66.2	66.2	66.2	66.2
102.5°	80.2	80.5	80.8	81.0	81.0	81.1	81.2	81.2
105°	102.3	102.5	102.8	103.1	103.4	103.7	104.0	104.2
107.5°	126.0	126.3	126.6	126.7	126.7	126.7	126.6	126.6
110°	141.9	141.7	141.5	141.5	141.8	142.0	142.3	142.6



TEST NUMBER: P332720-830

CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.9	158.8	158.8	158.8	158.9	158.9	159.0	159.0
115°	185.2	185.1	185.0	184.9	184.8	184.7	184.6	184.5
117.5°	210.5	210.1	209.8	209.5	209.3	209.2	209.0	208.8
120°	227.5	227.1	226.6	226.5	226.7	226.9	227.1	227.2
122.5°	245.0	244.6	244.3	243.9	243.6	243.3	242.9	242.6
125°	270.4	270.2	270.0	269.8	269.7	269.5	269.3	269.1
127.5°	294.7	294.5	294.4	294.2	294.1	293.9	293.8	293.6
130°	311.8	311.6	311.4	311.1	310.8	310.4	310.0	309.6
132.5°	327.9	327.7	327.5	327.3	327.2	327.1	326.9	326.8
135°	351.9	351.8	351.6	351.4	351.1	350.8	350.5	350.2
137.5°	375.2	375.0	374.8	374.7	374.8	374.8	374.8	374.9
140°	390.6	390.5	390.4	390.3	390.2	390.1	390.0	389.9
142.5°	405.1	405.1	405.1	405.0	405.0	405.0	405.0	405.0
145°	426.9	426.8	426.7	426.5	426.2	425.9	425.7	425.4
147.5°	446.7	446.6	446.6	446.5	446.4	446.3	446.2	446.1
150°	459.1	459.1	459.1	459.1	459.0	458.9	458.8	458.7
152.5°	470.9	471.1	471.4	471.3	471.1	470.8	470.6	470.3
155°	487.2	487.6	488.0	488.0	487.6	487.2	486.8	486.4
157.5°	501.6	501.9	502.2	502.2	501.9	501.5	501.2	500.9
160°	510.6	510.9	511.1	511.0	510.6	510.1	509.5	509.1
162.5°	518.5	519.1	519.5	519.5	519.1	518.6	518.1	517.6
165°	529.0	529.6	530.2	530.3	529.9	529.5	529.1	528.8
167.5°	537.9	538.5	539.0	539.0	538.5	537.9	537.2	536.7
170°	542.7	543.3	543.8	543.8	543.1	542.4	541.8	541.1
172.5°	546.3	547.0	547.5	547.5	546.9	546.2	545.5	544.9
175°	550.2	550.8	551.5	551.5	550.8	550.2	549.5	548.8
177.5°	552.3	552.8	553.4	553.3	552.7	552.1	551.5	550.9
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2

(END OF REPORT)