

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

Luminaire Tested: **S124DIW-S350D470U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332720
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-S350D470U835-4F0-1E-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: 3143.2 lumens
Efficiency: N/A
Efficacy: 136.7 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

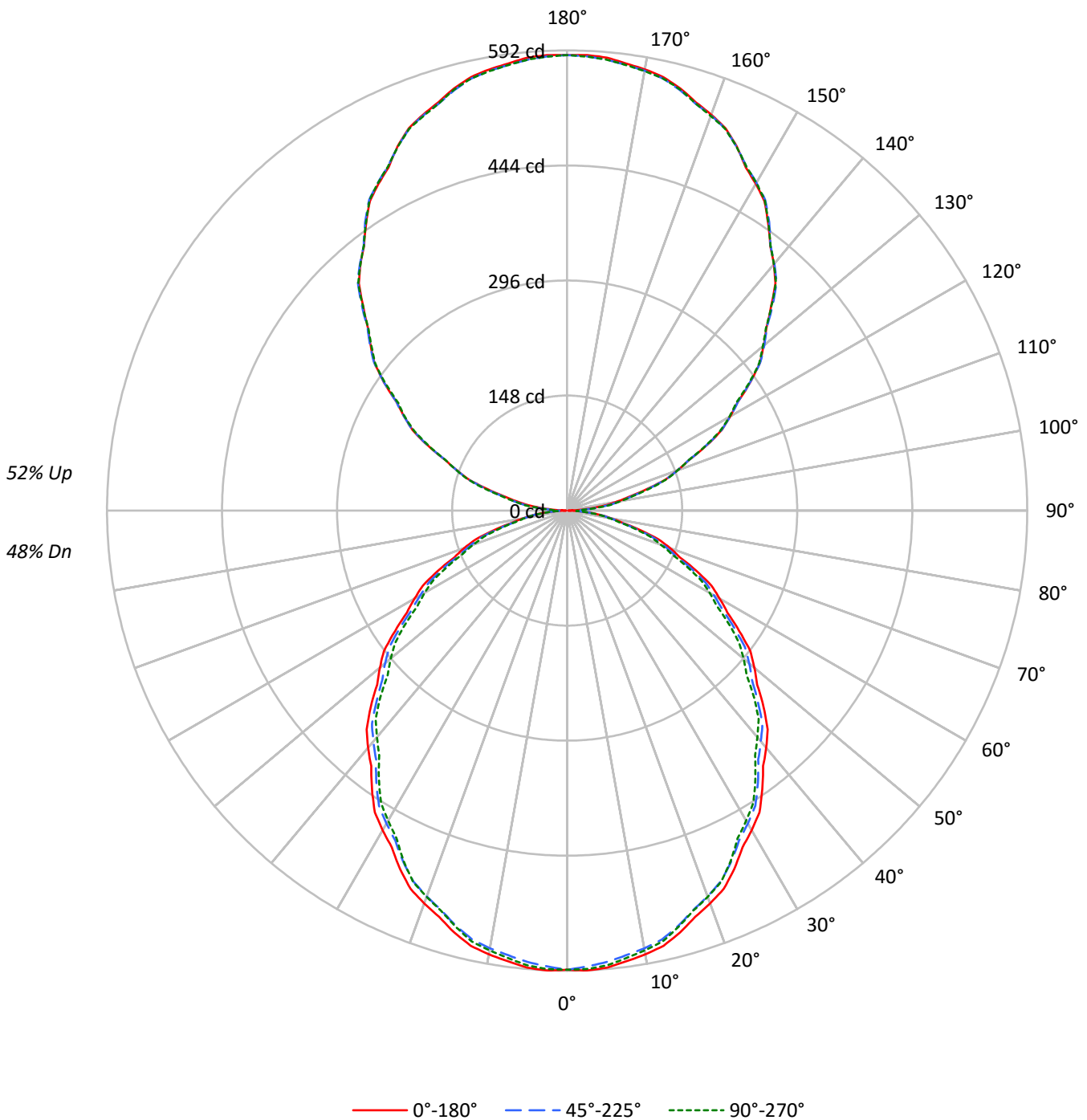
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

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	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°	4769	4769	4769
5°	4783	4725	4760
10°	4753	4687	4710
15°	4695	4621	4633
20°	4619	4538	4542
25°	4532	4444	4431
30°	4426	4333	4294
35°	4315	4217	4161
40°	4200	4086	4011
45°	4080	3956	3881
50°	3947	3841	3721
55°	3804	3690	3571
60°	3660	3523	3416
65°	3500	3364	3228
70°	3319	3151	3028
75°	3041	2895	2820
80°	2706	2599	2529
85°	2371	2279	2232



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	1.8
10°-20°	156.7	5.0
20°-30°	230.7	7.3
30°-40°	268.2	8.5
40°-50°	268.2	8.5
50°-60°	234.6	7.5
60°-70°	174.2	5.5
70°-80°	99.0	3.1
80°-90°	30.3	1.0
90°-100°	38.6	1.2
100°-110°	114.5	3.6
110°-120°	194.3	6.2
120°-130°	256.2	8.2
130°-140°	287.7	9.2
140°-150°	282.7	9.0
150°-160°	237.8	7.6
160°-170°	158.2	5.0
170°-180°	55.4	1.8
0°-30°	443.1	14.1
0°-40°	711.3	22.6
0°-60°	1214.1	38.6
0°-90°	1517.6	48.3
90°-120°	347.4	11.1
90°-150°	1174.1	37.4
90°-180°	1626.0	51.7
0°-180°	3143.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	590	588	583	588	587	56
15°	562	560	553	555	554	158
25°	509	505	499	499	498	234
35°	438	434	428	425	422	274
45°	357	354	346	342	340	275
55°	270	269	262	257	254	242
65°	183	181	176	172	169	181
75°	98	95	93	91	90	104
85°	26	26	25	25	24	28
90°	1	6	10	13	14	3
95°	27	31	34	36	36	30
105°	106	106	108	109	111	112
115°	198	198	197	196	196	195
125°	288	288	287	286	286	256
135°	371	374	374	373	372	287
145°	451	453	453	453	451	282
155°	517	517	516	518	516	238
165°	562	561	560	563	561	158
175°	585	583	582	585	582	56
180°	586	586	586	586	586	



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	592.2	592.0	591.7	591.5	591.2	590.6	589.7	588.8	587.9	586.9	587.8
5°	590.2	589.8	589.4	589.0	588.6	587.8	586.6	585.5	584.3	583.1	584.3
7.5°	584.8	584.3	583.9	583.5	583.1	582.2	580.9	579.7	578.4	577.1	578.0
10°	579.8	579.4	579.0	578.6	578.2	577.3	575.9	574.5	573.2	571.8	572.6
12.5°	573.4	573.0	572.6	572.1	571.7	570.8	569.3	567.9	566.4	565.0	565.9
15°	561.8	561.4	561.0	560.6	560.2	559.2	557.6	556.0	554.4	552.9	553.5
17.5°	547.9	547.4	546.9	546.4	545.8	544.8	543.3	541.8	540.3	538.8	539.2
20°	537.7	537.2	536.7	536.1	535.6	534.6	533.0	531.4	529.8	528.2	528.6
22.5°	526.7	526.0	525.3	524.6	523.9	522.8	521.2	519.7	518.1	516.5	517.1
25°	508.8	508.1	507.4	506.6	505.9	504.8	503.3	501.8	500.4	498.9	499.0
27.5°	488.4	487.6	486.9	486.1	485.4	484.3	482.9	481.6	480.2	478.8	478.6
30°	474.8	473.9	473.1	472.2	471.4	470.3	468.9	467.5	466.2	464.8	464.4
32.5°	460.4	459.6	458.8	458.1	457.3	456.2	454.8	453.3	451.9	450.4	449.9
35°	437.8	437.1	436.4	435.6	434.9	433.8	432.3	430.8	429.4	427.9	427.2
37.5°	414.1	413.4	412.7	412.1	411.4	410.3	408.7	407.1	405.5	403.9	403.1
40°	398.5	397.7	396.9	396.0	395.2	394.0	392.4	390.8	389.2	387.7	386.6
42.5°	381.9	381.4	380.9	380.4	379.9	378.7	377.0	375.2	373.5	371.8	370.5
45°	357.4	356.6	355.9	355.2	354.4	353.2	351.5	349.8	348.2	346.5	345.3
47.5°	331.7	331.2	330.7	330.2	329.7	328.7	327.1	325.5	324.0	322.4	321.1
50°	314.3	313.9	313.5	313.0	312.6	311.7	310.2	308.7	307.2	305.8	304.3
52.5°	297.3	296.7	296.2	295.7	295.2	294.2	292.6	291.1	289.5	288.0	286.7
55°	270.3	270.0	269.6	269.3	269.0	268.1	266.6	265.2	263.7	262.2	261.0
57.5°	244.5	244.2	243.8	243.5	243.1	242.2	240.7	239.3	237.8	236.4	235.2
60°	226.7	226.2	225.7	225.1	224.6	223.7	222.3	220.9	219.6	218.2	217.3
62.5°	209.3	208.9	208.4	208.0	207.5	206.6	205.1	203.7	202.2	200.8	199.9
65°	183.2	182.7	182.1	181.6	181.1	180.3	179.2	178.2	177.1	176.1	175.0
67.5°	156.9	156.4	155.9	155.4	154.9	154.2	153.2	152.2	151.2	150.1	149.1
70°	140.6	139.8	139.1	138.4	137.6	136.8	136.0	135.2	134.3	133.5	132.6
72.5°	123.2	122.4	121.7	121.0	120.2	119.5	118.8	118.2	117.5	116.8	116.1
75°	97.5	97.0	96.5	95.9	95.4	94.9	94.4	93.8	93.3	92.8	92.4
77.5°	73.0	72.8	72.5	72.3	72.1	71.7	71.3	70.8	70.3	69.9	69.7
80°	58.2	57.9	57.6	57.3	57.0	56.7	56.5	56.3	56.1	55.9	55.6
82.5°	43.8	43.7	43.5	43.4	43.2	43.1	43.1	43.1	43.0	43.0	42.9
85°	25.6	25.6	25.6	25.6	25.6	25.5	25.2	25.0	24.8	24.6	24.6
87.5°	10.1	10.3	10.4	10.5	10.7	10.8	10.9	10.9	11.0	11.1	11.2
90°	1.4	2.5	3.6	4.7	5.8	6.7	7.6	8.4	9.2	10.0	10.6
92.5°	9.7	11.0	12.2	13.5	14.8	15.7	16.3	16.8	17.4	17.9	18.3
95°	27.2	28.1	29.0	29.9	30.8	31.6	32.3	33.0	33.7	34.4	34.7
97.5°	47.5	48.2	48.9	49.7	50.4	51.2	52.0	52.8	53.6	54.5	54.8
100°	63.4	63.8	64.2	64.6	65.1	65.7	66.6	67.5	68.4	69.3	69.5
102.5°	80.1	80.3	80.4	80.6	80.8	81.3	82.1	82.9	83.7	84.6	84.8
105°	105.6	105.7	105.8	105.9	106.0	106.2	106.6	107.0	107.4	107.8	108.1
107.5°	132.3	132.4	132.6	132.7	132.8	132.9	133.0	133.0	133.1	133.1	133.4
110°	150.4	150.6	150.8	151.0	151.2	151.3	151.2	151.1	151.0	150.9	150.7



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.3	169.3	169.4	169.4	169.5	169.4	169.2	169.0	168.8	168.7	168.6
115°	197.6	197.6	197.6	197.6	197.6	197.5	197.3	197.1	196.9	196.7	196.6
117.5°	224.2	224.3	224.4	224.5	224.5	224.5	224.4	224.2	224.1	223.9	223.6
120°	242.0	242.4	242.8	243.2	243.6	243.6	243.3	243.0	242.7	242.4	241.9
122.5°	260.5	260.6	260.8	260.9	261.1	261.1	261.0	260.8	260.7	260.6	260.2
125°	287.7	287.7	287.7	287.7	287.7	287.7	287.6	287.5	287.4	287.3	287.1
127.5°	312.5	312.8	313.1	313.4	313.7	313.8	313.6	313.4	313.3	313.1	312.9
130°	329.9	330.2	330.5	330.8	331.1	331.2	331.2	331.2	331.2	331.2	331.0
132.5°	347.6	347.9	348.1	348.3	348.5	348.6	348.5	348.4	348.4	348.3	348.1
135°	371.1	371.7	372.3	372.9	373.5	373.8	373.8	373.8	373.8	373.8	373.6
137.5°	396.7	397.0	397.2	397.5	397.8	398.0	398.2	398.4	398.5	398.7	398.4
140°	413.7	413.9	414.1	414.3	414.5	414.6	414.6	414.6	414.6	414.6	414.5
142.5°	429.3	429.5	429.7	429.9	430.1	430.2	430.1	430.0	429.9	429.8	429.8
145°	450.9	451.3	451.7	452.1	452.5	452.7	452.8	452.9	453.0	453.1	453.0
147.5°	472.3	472.7	473.2	473.7	474.2	474.4	474.3	474.2	474.2	474.1	474.0
150°	485.3	485.7	486.1	486.5	486.9	487.1	487.1	487.1	487.1	487.1	487.1
152.5°	497.6	497.9	498.1	498.4	498.6	498.8	498.8	498.9	499.0	499.1	499.3
155°	516.6	516.6	516.6	516.6	516.6	516.5	516.4	516.3	516.2	516.1	516.5
157.5°	532.5	532.3	532.2	532.0	531.8	531.7	531.7	531.7	531.6	531.6	531.9
160°	542.0	541.9	541.8	541.7	541.6	541.5	541.4	541.3	541.2	541.1	541.4
162.5°	550.7	550.4	550.1	549.9	549.6	549.4	549.3	549.2	549.1	549.0	549.6
165°	562.3	562.0	561.7	561.4	561.1	560.9	560.7	560.5	560.3	560.1	560.7
167.5°	571.3	570.9	570.5	570.1	569.6	569.4	569.4	569.5	569.5	569.5	570.1
170°	576.4	575.9	575.4	574.9	574.4	574.2	574.3	574.4	574.5	574.6	575.2
172.5°	580.0	579.6	579.2	578.8	578.3	578.1	578.1	578.2	578.2	578.2	578.9
175°	585.0	584.5	584.0	583.5	583.0	582.7	582.6	582.5	582.4	582.3	583.0
177.5°	586.6	586.2	585.8	585.4	585.0	584.8	584.8	584.8	584.8	584.8	585.4
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	588.6	589.5	590.3	590.7	590.6	590.5	590.4	590.3
5°	585.5	586.6	587.8	588.2	588.0	587.8	587.6	587.4
7.5°	578.9	579.9	580.8	581.2	581.1	580.9	580.8	580.7
10°	573.5	574.3	575.2	575.5	575.3	575.0	574.8	574.6
12.5°	566.8	567.7	568.7	569.0	568.7	568.4	568.1	567.8
15°	554.1	554.7	555.4	555.5	555.2	554.9	554.6	554.3
17.5°	539.6	540.0	540.4	540.5	540.3	540.1	539.9	539.7
20°	528.9	529.2	529.5	529.6	529.3	529.1	528.9	528.7
22.5°	517.6	518.2	518.8	518.9	518.5	518.1	517.7	517.4
25°	499.1	499.2	499.3	499.2	498.7	498.3	497.9	497.5
27.5°	478.3	478.1	477.8	477.4	476.9	476.4	475.8	475.3
30°	464.0	463.6	463.1	462.7	462.1	461.6	461.1	460.6
32.5°	449.4	448.9	448.4	447.9	447.4	446.8	446.3	445.8
35°	426.4	425.7	424.9	424.3	423.8	423.3	422.7	422.2
37.5°	402.3	401.5	400.7	400.0	399.3	398.6	397.9	397.2
40°	385.6	384.5	383.5	382.7	382.1	381.6	381.1	380.6
42.5°	369.3	368.1	366.9	366.1	365.7	365.4	365.0	364.7
45°	344.2	343.0	341.9	341.1	340.8	340.5	340.2	339.9
47.5°	319.8	318.5	317.2	316.2	315.4	314.6	313.8	313.0
50°	302.8	301.4	299.9	298.8	298.2	297.6	296.9	296.3
52.5°	285.4	284.1	282.8	281.7	280.9	280.1	279.3	278.5
55°	259.7	258.4	257.2	256.2	255.6	255.0	254.3	253.7
57.5°	234.0	232.8	231.6	230.7	230.1	229.5	228.9	228.2
60°	216.3	215.4	214.4	213.7	213.2	212.6	212.1	211.6
62.5°	199.1	198.2	197.3	196.6	196.1	195.6	195.1	194.5
65°	174.0	172.9	171.9	171.1	170.6	170.0	169.5	169.0
67.5°	148.1	147.1	146.1	145.5	145.4	145.2	145.1	144.9
70°	131.8	131.0	130.1	129.5	129.2	128.9	128.6	128.3
72.5°	115.5	114.8	114.1	113.6	113.3	113.0	112.7	112.4
75°	91.9	91.5	91.1	90.8	90.7	90.6	90.5	90.4
77.5°	69.6	69.5	69.4	69.2	68.9	68.6	68.3	68.1
80°	55.4	55.2	55.0	54.9	54.7	54.6	54.5	54.4
82.5°	42.7	42.6	42.5	42.4	42.3	42.1	42.0	41.9
85°	24.6	24.6	24.6	24.6	24.5	24.4	24.2	24.1
87.5°	11.3	11.4	11.6	11.6	11.7	11.7	11.8	11.8
90°	11.2	11.8	12.4	12.8	13.0	13.2	13.4	13.6
92.5°	18.7	19.0	19.4	19.6	19.8	19.9	20.0	20.1
95°	35.0	35.3	35.6	35.8	35.8	35.8	35.8	35.8
97.5°	55.2	55.6	55.9	56.1	56.1	56.1	56.1	56.1
100°	69.7	69.9	70.1	70.2	70.2	70.2	70.2	70.2
102.5°	85.1	85.4	85.7	85.9	85.9	86.0	86.1	86.2
105°	108.5	108.8	109.1	109.4	109.7	110.0	110.3	110.6
107.5°	133.7	134.0	134.3	134.4	134.4	134.4	134.3	134.3
110°	150.5	150.3	150.1	150.1	150.4	150.7	151.0	151.3



TEST NUMBER: P332720

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.6	168.5	168.5	168.5	168.6	168.6	168.7	168.7
115°	196.5	196.4	196.3	196.2	196.1	196.0	195.9	195.8
117.5°	223.3	222.9	222.6	222.3	222.1	221.9	221.7	221.5
120°	241.4	240.9	240.4	240.3	240.5	240.7	240.9	241.1
122.5°	259.9	259.5	259.2	258.8	258.5	258.1	257.7	257.4
125°	286.9	286.7	286.5	286.3	286.1	285.9	285.7	285.5
127.5°	312.7	312.5	312.3	312.1	312.0	311.8	311.7	311.5
130°	330.8	330.6	330.4	330.1	329.7	329.3	328.9	328.5
132.5°	347.9	347.7	347.5	347.3	347.1	347.0	346.8	346.7
135°	373.4	373.2	373.0	372.8	372.5	372.2	371.9	371.6
137.5°	398.1	397.9	397.6	397.5	397.6	397.6	397.7	397.8
140°	414.4	414.3	414.2	414.1	414.0	413.9	413.8	413.7
142.5°	429.8	429.8	429.8	429.7	429.7	429.7	429.7	429.7
145°	452.9	452.8	452.7	452.5	452.2	451.9	451.6	451.3
147.5°	473.9	473.8	473.8	473.7	473.6	473.5	473.4	473.3
150°	487.1	487.1	487.1	487.1	487.0	486.9	486.8	486.7
152.5°	499.6	499.8	500.1	500.0	499.8	499.5	499.3	499.0
155°	516.9	517.3	517.7	517.7	517.3	516.9	516.5	516.1
157.5°	532.2	532.5	532.8	532.8	532.5	532.1	531.8	531.4
160°	541.7	542.0	542.3	542.2	541.7	541.2	540.6	540.1
162.5°	550.1	550.7	551.2	551.2	550.7	550.2	549.7	549.2
165°	561.3	561.9	562.5	562.6	562.2	561.8	561.4	561.0
167.5°	570.7	571.3	571.9	571.9	571.3	570.7	570.0	569.4
170°	575.8	576.4	577.0	576.9	576.2	575.5	574.8	574.1
172.5°	579.6	580.3	580.9	580.9	580.2	579.5	578.8	578.1
175°	583.7	584.4	585.1	585.1	584.4	583.7	583.0	582.3
177.5°	586.0	586.5	587.1	587.0	586.4	585.8	585.1	584.5
180°	585.9	585.9	585.9	585.9	585.9	585.9	585.9	585.9

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