

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: P332718

Luminaire Tested: **S124DIW-S350D470U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332718
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-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP 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: 3068.2 lumens
Efficiency: N/A
Efficacy: 133.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

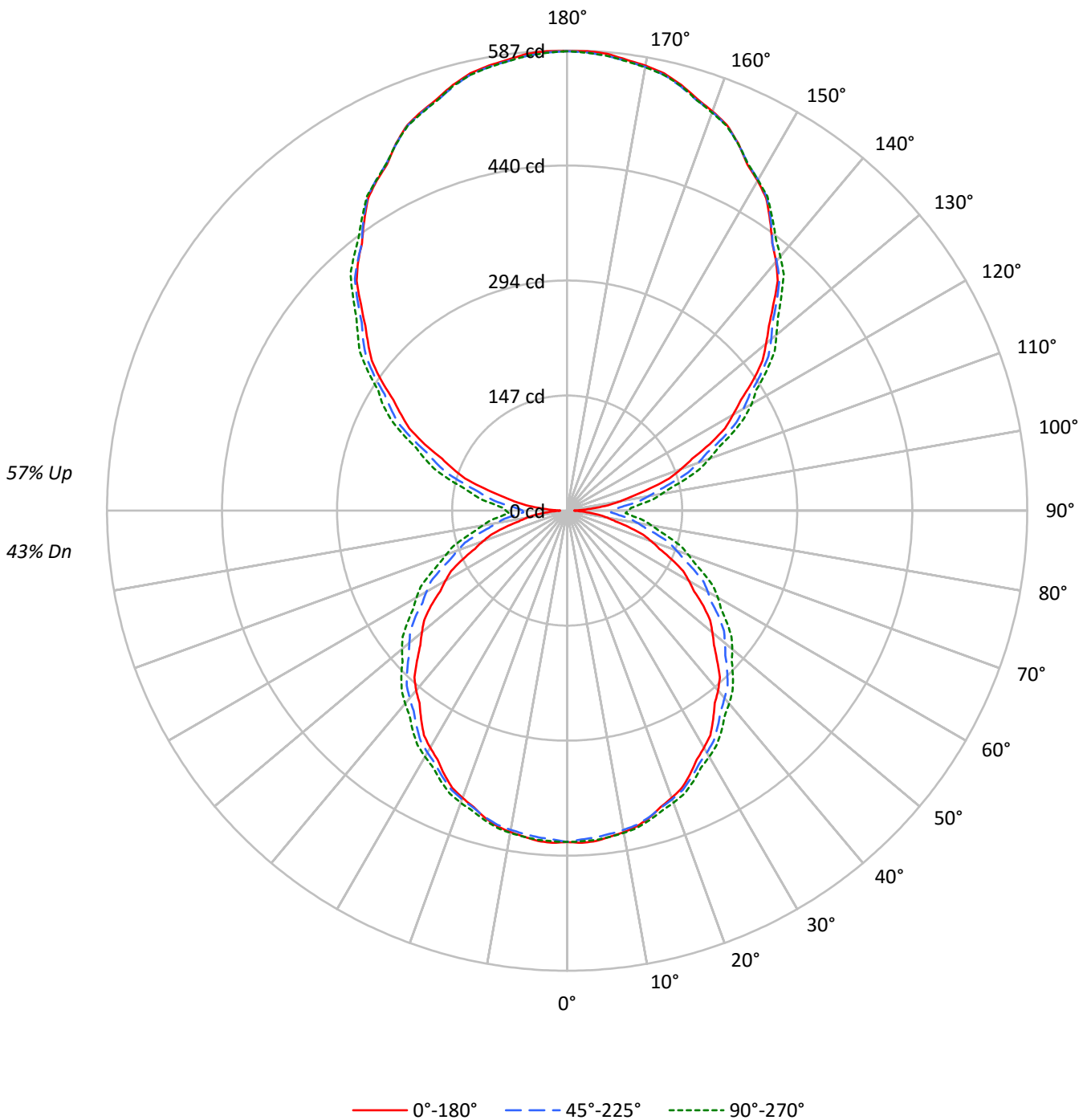
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	1.3
10°-20°	114.7	3.7
20°-30°	173.4	5.7
30°-40°	209.8	6.8
40°-50°	221.8	7.2
50°-60°	208.8	6.8
60°-70°	173.2	5.6
70°-80°	121.7	4.0
80°-90°	70.5	2.3
90°-100°	79.5	2.6
100°-110°	144.7	4.7
110°-120°	214.6	7.0
120°-130°	267.7	8.7
130°-140°	292.7	9.5
140°-150°	283.7	9.2
150°-160°	237.8	7.8
160°-170°	158.2	5.2
170°-180°	55.4	1.8
0°-30°	328.1	10.7
0°-40°	537.9	17.5
0°-60°	968.5	31.6
0°-90°	1333.9	43.5
90°-120°	438.8	14.3
90°-150°	1282.9	41.8
90°-180°	1734.0	56.5
0°-180°	3068.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	9	33	57	73	78	7
95°	33	53	76	89	94	35
105°	110	120	139	152	157	117
115°	200	205	219	228	232	198
125°	290	290	300	308	311	258
135°	372	375	378	384	386	288
145°	451	453	453	455	456	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: P332718

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.3	18.8	23.3	27.8	32.3	37.0	41.7	46.5	51.3	56.0	59.2
90°	8.9	14.2	19.6	24.9	30.2	35.5	40.8	46.2	51.5	56.8	60.5
92.5°	16.9	21.9	27.0	32.1	37.1	42.2	47.3	52.4	57.4	62.5	65.9
95°	33.3	37.7	42.1	46.5	50.9	55.5	60.6	65.6	70.6	75.6	78.8
97.5°	53.1	56.8	60.5	64.2	67.9	72.3	77.4	82.5	87.6	92.7	95.8
100°	68.6	71.8	74.9	78.1	81.2	85.3	90.3	95.3	100.3	105.3	108.3
102.5°	85.3	87.9	90.4	93.0	95.6	99.3	104.1	108.9	113.8	118.6	121.7
105°	109.8	112.0	114.3	116.5	118.7	121.9	126.2	130.5	134.8	139.1	142.0
107.5°	136.5	138.3	140.2	142.0	143.9	146.7	150.4	154.1	157.9	161.6	164.5
110°	154.2	155.9	157.6	159.3	160.9	163.6	167.1	170.7	174.3	177.9	180.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.7	174.0	175.4	176.7	178.1	180.4	183.7	187.1	190.4	193.7	196.0
115°	200.4	201.4	202.3	203.2	204.2	206.3	209.4	212.6	215.7	218.9	221.1
117.5°	227.0	227.6	228.3	228.9	229.6	231.4	234.4	237.4	240.4	243.3	245.2
120°	244.3	245.1	245.8	246.5	247.2	249.0	251.7	254.4	257.2	259.9	261.5
122.5°	262.8	263.1	263.3	263.5	263.7	265.2	268.0	270.7	273.4	276.2	277.9
125°	289.6	289.5	289.4	289.3	289.2	290.4	293.0	295.5	298.0	300.5	302.3
127.5°	314.3	314.5	314.7	314.9	315.1	316.1	318.0	319.8	321.7	323.5	325.2
130°	331.3	331.5	331.7	331.9	332.1	333.0	334.7	336.4	338.1	339.8	341.5
132.5°	349.1	349.2	349.3	349.4	349.5	350.2	351.5	352.8	354.0	355.3	356.9
135°	372.1	372.7	373.3	373.9	374.5	375.2	375.9	376.6	377.4	378.1	379.6
137.5°	397.6	397.8	398.0	398.2	398.3	398.7	399.2	399.7	400.2	400.8	402.0
140°	414.7	414.8	414.9	415.0	415.0	415.1	415.3	415.4	415.5	415.6	416.8
142.5°	429.9	430.1	430.2	430.4	430.6	430.6	430.5	430.3	430.2	430.0	431.2
145°	451.3	451.6	451.9	452.2	452.5	452.7	452.8	452.9	453.0	453.1	453.7
147.5°	472.7	473.1	473.5	473.9	474.2	474.4	474.3	474.2	474.2	474.1	474.1
150°	485.8	486.1	486.4	486.7	487.0	487.1	487.1	487.1	487.1	487.1	487.1
152.5°	497.7	498.0	498.2	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	62.4	65.6	68.7	70.8	71.8	72.7	73.7	74.7
90°	64.1	67.8	71.4	73.8	74.8	75.9	76.9	78.0
92.5°	69.2	72.5	75.8	78.0	79.0	79.9	80.9	81.8
95°	81.9	85.0	88.2	90.2	91.2	92.1	93.1	94.0
97.5°	98.9	102.1	105.2	107.2	108.1	109.0	109.9	110.8
100°	111.4	114.4	117.5	119.4	120.1	120.8	121.6	122.3
102.5°	124.7	127.7	130.8	132.8	133.7	134.6	135.5	136.4
105°	145.0	147.9	150.8	152.9	154.0	155.1	156.3	157.4
107.5°	167.4	170.2	173.1	174.9	175.6	176.4	177.1	177.9
110°	182.3	184.5	186.7	188.4	189.6	190.7	191.9	193.0



TEST NUMBER: P332718

CATALOG NUMBER: S124DIW-S350D470U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.3	200.6	202.9	204.5	205.4	206.3	207.2	208.1
115°	223.3	225.5	227.8	229.2	229.8	230.5	231.1	231.7
117.5°	247.0	248.9	250.7	252.0	252.6	253.3	253.9	254.5
120°	263.1	264.7	266.3	267.7	268.7	269.8	270.8	271.8
122.5°	279.7	281.5	283.2	284.3	284.7	285.1	285.5	285.9
125°	304.1	305.9	307.7	308.8	309.3	309.7	310.1	310.6
127.5°	326.9	328.6	330.3	331.4	332.0	332.5	333.1	333.6
130°	343.1	344.8	346.5	347.5	347.7	348.0	348.2	348.4
132.5°	358.5	360.1	361.7	362.8	363.2	363.7	364.2	364.6
135°	381.1	382.5	384.0	384.9	385.3	385.6	385.9	386.2
137.5°	403.3	404.6	405.9	406.8	407.4	408.0	408.5	409.1
140°	418.1	419.4	420.6	421.5	421.9	422.3	422.8	423.2
142.5°	432.4	433.6	434.8	435.6	436.0	436.4	436.8	437.2
145°	454.2	454.7	455.3	455.6	455.7	455.8	455.9	456.1
147.5°	474.1	474.1	474.1	474.2	474.4	474.7	474.9	475.2
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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