

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: P332717

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332717
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
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-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3317.0 lumens
Efficiency: N/A
Efficacy: 144.2 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

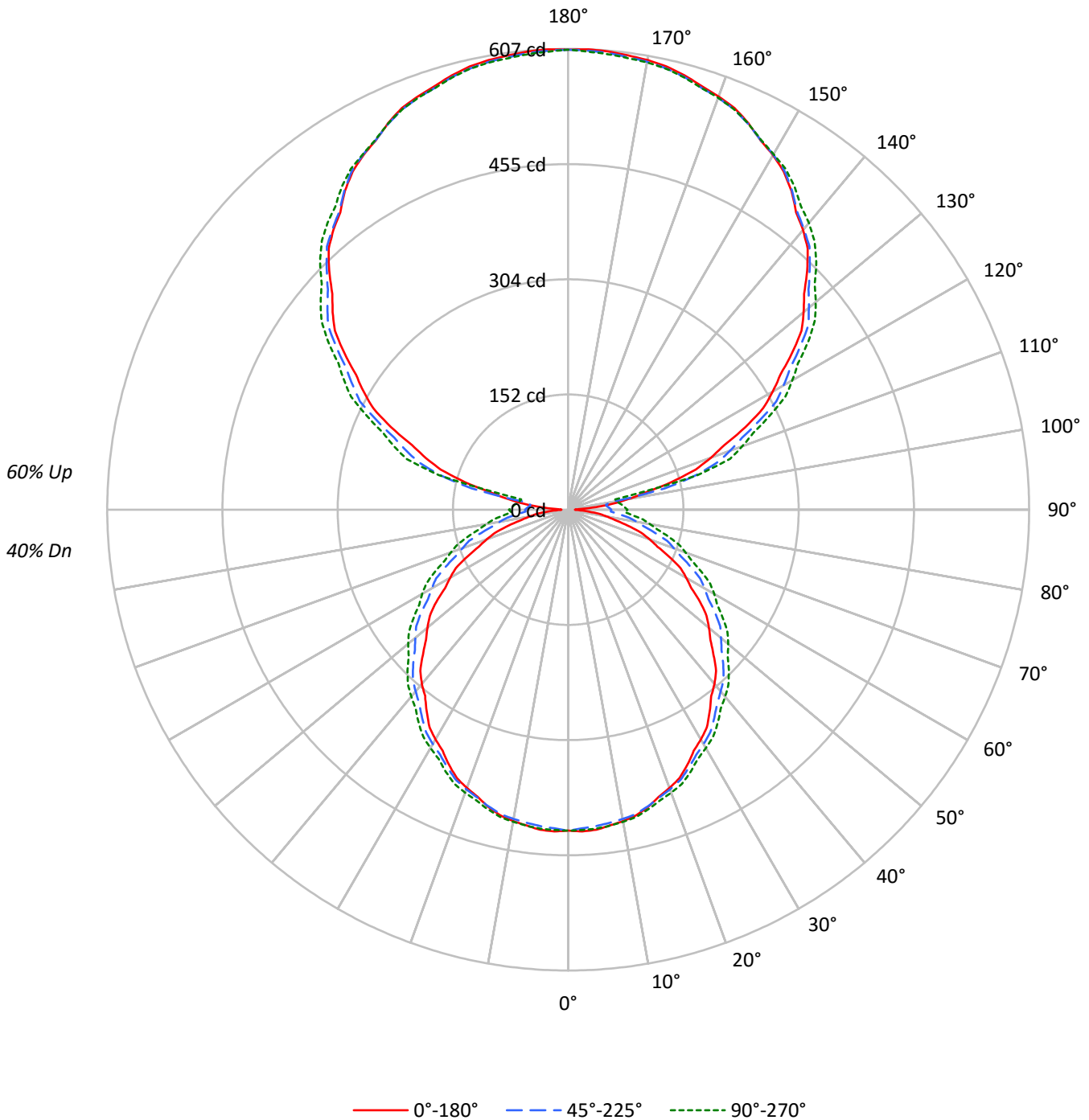
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332717

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

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	18
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

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	1.2
10°-20°	114.7	3.5
20°-30°	173.4	5.2
30°-40°	209.8	6.3
40°-50°	221.8	6.7
50°-60°	208.8	6.3
60°-70°	173.2	5.2
70°-80°	121.7	3.7
80°-90°	70.5	2.1
90°-100°	61.6	1.9
100°-110°	162.4	4.9
110°-120°	273.1	8.2
120°-130°	332.3	10.0
130°-140°	348.3	10.5
140°-150°	322.0	9.7
150°-160°	258.9	7.8
160°-170°	167.0	5.0
170°-180°	57.6	1.7
0°-30°	328.1	9.9
0°-40°	537.9	16.2
0°-60°	968.5	29.2
0°-90°	1333.9	40.2
90°-120°	497.0	15.0
90°-150°	1499.6	45.2
90°-180°	1983.0	59.8
0°-180°	3317.0	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	6
95°	31	32	51	66	71	37
105°	141	153	173	187	176	148
115°	258	264	278	289	292	254
125°	360	362	372	382	386	321
135°	445	445	450	458	462	343
145°	513	513	514	517	520	320
155°	562	562	561	562	561	259
165°	592	590	590	593	590	167
175°	606	603	604	607	602	58
180°	606	606	606	606	606	



TEST NUMBER: P332717

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

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°	12.9	16.8	20.6	24.4	28.3	32.9	38.2	43.5	48.9	54.2	57.8
95°	31.1	31.1	31.2	31.2	31.3	33.5	37.9	42.3	46.7	51.2	54.6
97.5°	58.5	63.6	68.8	73.9	79.0	78.1	71.1	64.1	57.2	50.2	53.0
100°	79.5	84.1	88.6	93.2	97.7	95.1	85.3	75.5	65.7	55.9	57.0
102.5°	103.5	107.2	110.9	114.6	118.4	121.3	123.5	125.7	128.0	130.2	114.4
105°	140.7	143.4	146.1	148.8	151.5	155.1	159.5	163.8	168.2	172.6	176.2
107.5°	176.0	178.0	180.1	182.1	184.1	187.3	191.7	196.1	200.4	204.8	207.8
110°	199.6	201.3	203.1	204.9	206.7	209.7	214.0	218.3	222.6	226.8	229.5



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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.4	224.2	226.1	227.9	229.8	232.6	236.4	240.2	244.0	247.8	250.1
115°	257.5	258.8	260.0	261.3	262.5	264.8	268.1	271.3	274.6	277.9	280.4
117.5°	289.6	290.6	291.6	292.5	293.5	295.7	299.0	302.4	305.7	309.1	311.2
120°	311.0	311.7	312.4	313.2	313.9	315.7	318.7	321.6	324.6	327.5	329.8
122.5°	331.3	331.6	331.9	332.2	332.5	334.2	337.2	340.2	343.3	346.3	348.5
125°	359.9	360.2	360.5	360.8	361.1	362.5	364.9	367.3	369.8	372.2	374.5
127.5°	387.4	387.4	387.4	387.4	387.4	388.6	391.1	393.6	396.1	398.5	400.4
130°	404.8	404.8	404.8	404.8	404.8	405.7	407.7	409.7	411.7	413.7	415.7
132.5°	421.1	421.2	421.2	421.3	421.4	422.3	424.0	425.7	427.5	429.2	431.1
135°	445.1	445.0	444.9	444.8	444.7	445.2	446.3	447.5	448.6	449.8	451.6
137.5°	466.7	466.7	466.6	466.6	466.5	466.9	467.7	468.5	469.3	470.1	471.8
140°	480.9	481.0	481.1	481.2	481.3	481.5	481.8	482.1	482.4	482.7	484.4
142.5°	493.2	493.5	493.9	494.2	494.6	494.8	494.8	494.9	494.9	495.0	496.4
145°	512.6	512.8	513.0	513.2	513.4	513.5	513.5	513.5	513.5	513.5	514.2
147.5°	528.1	528.5	529.0	529.5	529.9	530.1	530.0	529.9	529.8	529.7	529.9
150°	539.3	539.6	539.9	540.2	540.5	540.6	540.5	540.4	540.3	540.2	540.2
152.5°	548.4	548.7	549.0	549.3	549.6	549.6	549.5	549.3	549.1	548.9	549.1
155°	561.5	561.6	561.7	561.8	561.9	561.8	561.5	561.2	560.9	560.6	561.0
157.5°	572.7	572.6	572.5	572.5	572.4	572.2	571.9	571.5	571.2	570.9	571.4
160°	579.2	578.9	578.6	578.3	578.0	577.8	577.7	577.6	577.5	577.4	578.0
162.5°	585.0	584.6	584.2	583.8	583.5	583.2	583.1	583.0	582.9	582.8	583.4
165°	592.3	591.8	591.3	590.8	590.3	590.1	590.1	590.1	590.1	590.1	590.9
167.5°	598.1	597.6	597.1	596.6	596.0	595.7	595.7	595.6	595.6	595.5	596.4
170°	601.4	600.8	600.2	599.6	599.0	598.7	598.8	598.9	599.0	599.1	599.9
172.5°	603.6	603.0	602.4	601.8	601.2	600.9	601.0	601.1	601.2	601.3	602.1
175°	605.9	605.3	604.7	604.1	603.5	603.3	603.4	603.5	603.6	603.7	604.6
177.5°	607.0	606.5	605.9	605.3	604.8	604.6	604.7	604.9	605.0	605.2	605.8
180°	605.9	605.9	605.9	605.9	605.9	605.9	605.9	605.9	605.9	605.9	605.9



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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°	61.3	64.9	68.5	70.7	71.6	72.5	73.3	74.2
95°	58.0	61.5	64.9	67.2	68.2	69.3	70.3	71.4
97.5°	55.8	58.7	61.5	63.4	64.4	65.4	66.4	67.4
100°	58.2	59.3	60.4	61.4	62.2	63.1	63.9	64.8
102.5°	98.7	83.0	67.3	59.9	60.7	61.5	62.4	63.2
105°	179.7	183.2	186.8	187.2	184.4	181.6	178.8	176.0
107.5°	210.9	213.9	216.9	219.0	220.1	221.3	222.4	223.6
110°	232.1	234.7	237.3	239.2	240.4	241.5	242.6	243.8



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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	252.4	254.7	257.0	258.7	260.0	261.2	262.4	263.6
115°	282.9	285.4	287.9	289.5	290.3	291.0	291.7	292.5
117.5°	313.4	315.5	317.7	319.2	320.0	320.8	321.6	322.4
120°	332.1	334.4	336.7	338.2	338.8	339.5	340.1	340.8
122.5°	350.7	352.9	355.2	356.6	357.1	357.7	358.2	358.8
125°	376.8	379.1	381.4	382.9	383.6	384.4	385.1	385.8
127.5°	402.2	404.0	405.9	407.1	407.7	408.4	409.0	409.6
130°	417.7	419.7	421.7	423.0	423.6	424.2	424.9	425.5
132.5°	433.0	434.9	436.8	438.1	438.6	439.2	439.7	440.3
135°	453.5	455.4	457.3	458.7	459.5	460.3	461.2	462.0
137.5°	473.6	475.3	477.1	478.2	478.7	479.1	479.6	480.1
140°	486.0	487.7	489.4	490.5	491.2	491.8	492.4	493.0
142.5°	497.8	499.3	500.7	501.6	502.1	502.5	503.0	503.5
145°	514.9	515.7	516.4	517.1	517.7	518.3	518.9	519.6
147.5°	530.0	530.2	530.4	530.7	531.1	531.5	532.0	532.4
150°	540.2	540.2	540.2	540.3	540.4	540.5	540.6	540.7
152.5°	549.2	549.4	549.6	549.6	549.6	549.5	549.4	549.4
155°	561.4	561.8	562.2	562.3	562.0	561.7	561.4	561.1
157.5°	571.9	572.4	572.9	572.9	572.4	571.9	571.4	570.9
160°	578.6	579.2	579.8	579.8	579.2	578.6	578.0	577.4
162.5°	584.0	584.6	585.2	585.2	584.5	583.8	583.1	582.5
165°	591.7	592.5	593.3	593.2	592.3	591.4	590.5	589.6
167.5°	597.3	598.2	599.1	599.0	598.0	597.0	596.0	595.0
170°	600.7	601.5	602.4	602.3	601.2	600.2	599.2	598.2
172.5°	602.9	603.7	604.5	604.4	603.3	602.2	601.1	600.0
175°	605.5	606.4	607.3	607.1	605.9	604.7	603.5	602.3
177.5°	606.5	607.1	607.8	607.6	606.7	605.7	604.7	603.8
180°	605.9	605.9	605.9	605.9	605.9	605.9	605.9	605.9

(END OF REPORT)