

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: P332718-840

Luminaire Tested: **S124DIW-S350D470U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332718-840
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-S350D470U840-4F0-1E-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: 3098.5 lumens
Efficiency: N/A
Efficacy: 134.7 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

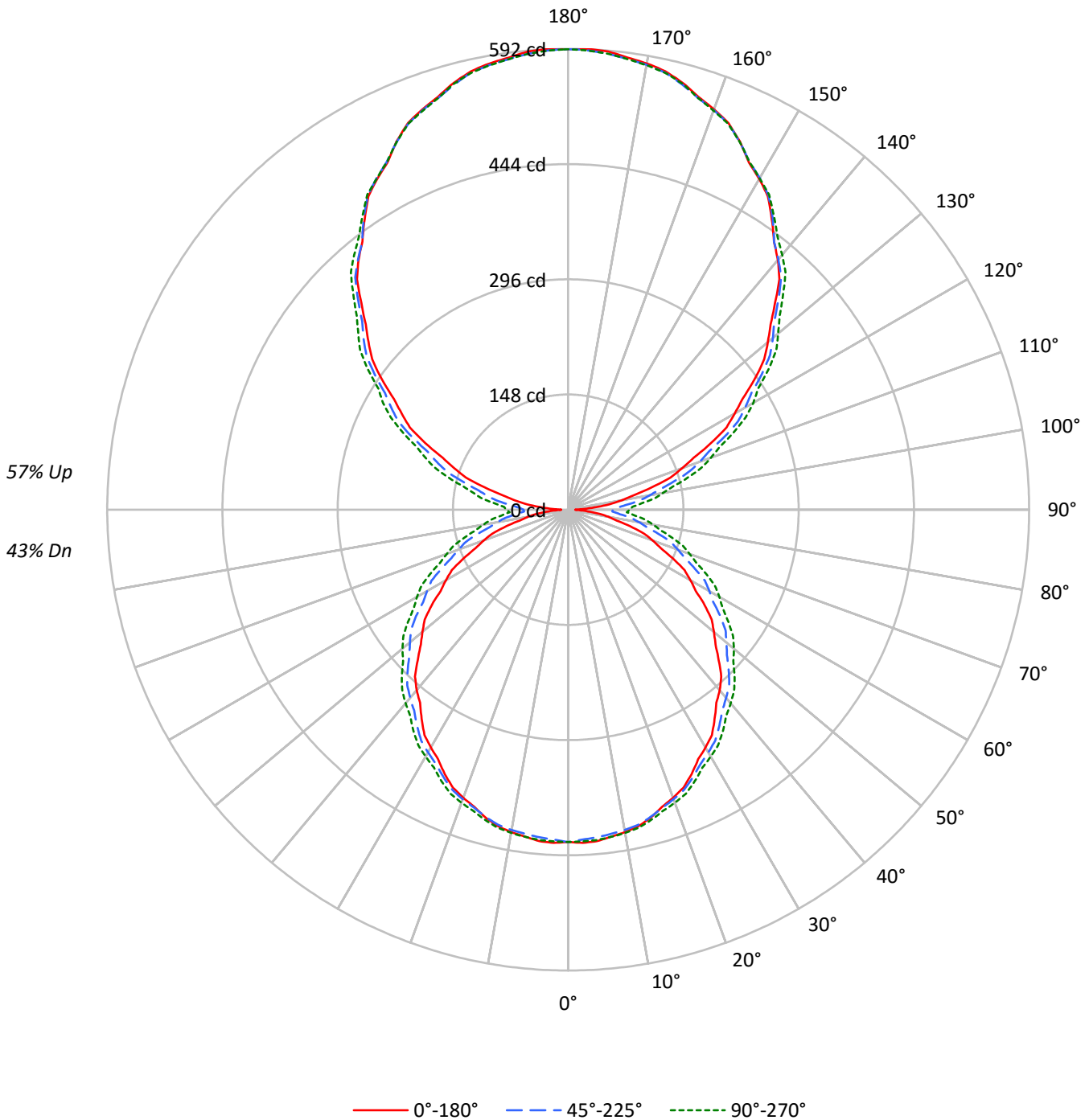
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	1.3
10°-20°	115.8	3.7
20°-30°	175.1	5.7
30°-40°	211.9	6.8
40°-50°	224.0	7.2
50°-60°	210.8	6.8
60°-70°	174.9	5.6
70°-80°	122.9	4.0
80°-90°	71.2	2.3
90°-100°	80.3	2.6
100°-110°	146.1	4.7
110°-120°	216.7	7.0
120°-130°	270.3	8.7
130°-140°	295.6	9.5
140°-150°	286.6	9.2
150°-160°	240.2	7.8
160°-170°	159.8	5.2
170°-180°	56.0	1.8
0°-30°	331.4	10.7
0°-40°	543.2	17.5
0°-60°	978.1	31.6
0°-90°	1347.0	43.5
90°-120°	443.1	14.3
90°-150°	1295.5	41.8
90°-180°	1751.0	56.5
0°-180°	3098.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	9	33	57	73	79	7
95°	34	54	76	90	95	35
105°	111	122	140	153	159	118
115°	202	207	221	231	234	200
125°	292	293	304	311	314	261
135°	376	379	382	388	390	291
145°	456	457	458	460	461	285
155°	522	522	521	523	521	240
165°	568	566	566	568	566	160
175°	591	589	588	591	588	56
180°	592	592	592	592	592	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.4	19.0	23.5	28.1	32.6	37.4	42.1	47.0	51.8	56.6	59.8
90°	9.0	14.3	19.8	25.1	30.5	35.9	41.2	46.7	52.0	57.4	61.1
92.5°	17.1	22.1	27.3	32.4	37.5	42.6	47.8	52.9	58.0	63.1	66.6
95°	33.6	38.1	42.5	47.0	51.4	56.0	61.2	66.2	71.3	76.3	79.6
97.5°	53.6	57.4	61.1	64.8	68.6	73.0	78.2	83.3	88.5	93.6	96.7
100°	69.3	72.5	75.6	78.9	82.0	86.1	91.2	96.2	101.3	106.3	109.4
102.5°	86.1	88.8	91.3	93.9	96.5	100.3	105.1	110.0	114.9	119.8	122.9
105°	110.9	113.1	115.4	117.6	119.9	123.1	127.4	131.8	136.1	140.5	143.4
107.5°	137.8	139.7	141.6	143.4	145.3	148.1	151.9	155.6	159.5	163.2	166.1
110°	155.7	157.4	159.2	160.9	162.5	165.2	168.7	172.4	176.0	179.7	181.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.4	175.7	177.1	178.4	179.9	182.2	185.5	188.9	192.3	195.6	197.9
115°	202.4	203.4	204.3	205.2	206.2	208.3	211.5	214.7	217.8	221.1	223.3
117.5°	229.2	229.8	230.6	231.2	231.9	233.7	236.7	239.7	242.8	245.7	247.6
120°	246.7	247.5	248.2	248.9	249.6	251.5	254.2	256.9	259.7	262.5	264.1
122.5°	265.4	265.7	265.9	266.1	266.3	267.8	270.6	273.4	276.1	278.9	280.6
125°	292.5	292.4	292.3	292.2	292.1	293.3	295.9	298.4	300.9	303.5	305.3
127.5°	317.4	317.6	317.8	318.0	318.2	319.2	321.1	323.0	324.9	326.7	328.4
130°	334.6	334.8	335.0	335.2	335.4	336.3	338.0	339.7	341.4	343.2	344.9
132.5°	352.5	352.6	352.7	352.8	352.9	353.7	355.0	356.3	357.5	358.8	360.4
135°	375.8	376.4	377.0	377.6	378.2	378.9	379.6	380.3	381.1	381.8	383.3
137.5°	401.5	401.7	401.9	402.1	402.2	402.6	403.1	403.6	404.1	404.8	406.0
140°	418.8	418.9	419.0	419.1	419.1	419.2	419.4	419.5	419.6	419.7	420.9
142.5°	434.1	434.3	434.4	434.6	434.8	434.8	434.7	434.5	434.4	434.2	435.5
145°	455.8	456.1	456.4	456.7	457.0	457.2	457.3	457.4	457.5	457.6	458.2
147.5°	477.4	477.8	478.2	478.6	478.9	479.1	479.0	478.9	478.9	478.8	478.8
150°	490.6	490.9	491.2	491.5	491.8	491.9	491.9	491.9	491.9	491.9	491.9
152.5°	502.6	502.9	503.1	503.3	503.5	503.7	503.7	503.8	503.9	504.0	504.2
155°	521.7	521.7	521.7	521.7	521.7	521.6	521.5	521.4	521.3	521.2	521.6
157.5°	537.8	537.6	537.5	537.2	537.0	536.9	536.9	536.9	536.8	536.8	537.1
160°	547.3	547.2	547.1	547.0	546.9	546.8	546.7	546.6	546.5	546.4	546.7
162.5°	556.1	555.8	555.5	555.3	555.0	554.8	554.7	554.6	554.5	554.4	555.0
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.2	566.0	565.8	565.6	566.2
167.5°	576.9	576.5	576.1	575.7	575.2	575.0	575.0	575.1	575.1	575.1	575.7
170°	582.1	581.6	581.1	580.6	580.1	579.9	580.0	580.1	580.2	580.3	580.9
172.5°	585.7	585.3	584.9	584.5	584.0	583.8	583.8	583.9	583.9	583.9	584.6
175°	590.8	590.3	589.8	589.3	588.8	588.4	588.3	588.2	588.1	588.0	588.8
177.5°	592.4	592.0	591.6	591.2	590.8	590.6	590.6	590.6	590.6	590.6	591.2
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	63.0	66.2	69.4	71.5	72.5	73.4	74.4	75.4
90°	64.7	68.5	72.1	74.5	75.5	76.6	77.7	78.8
92.5°	69.9	73.2	76.5	78.8	79.8	80.7	81.7	82.6
95°	82.7	85.8	89.1	91.1	92.1	93.0	94.0	94.9
97.5°	99.9	103.1	106.2	108.3	109.2	110.1	111.0	111.9
100°	112.5	115.5	118.7	120.6	121.3	122.0	122.8	123.5
102.5°	125.9	129.0	132.1	134.1	135.0	135.9	136.8	137.7
105°	146.4	149.4	152.3	154.4	155.5	156.6	157.8	159.0
107.5°	169.1	171.9	174.8	176.6	177.3	178.1	178.8	179.7
110°	184.1	186.3	188.5	190.3	191.5	192.6	193.8	194.9



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CATALOG NUMBER: S124DIW-S350D470U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	200.3	202.6	204.9	206.5	207.4	208.3	209.2	210.2
115°	225.5	227.7	230.0	231.5	232.1	232.8	233.4	234.0
117.5°	249.4	251.4	253.2	254.5	255.1	255.8	256.4	257.0
120°	265.7	267.3	268.9	270.3	271.4	272.5	273.5	274.5
122.5°	282.5	284.3	286.0	287.1	287.5	287.9	288.3	288.7
125°	307.1	308.9	310.7	311.8	312.4	312.8	313.2	313.7
127.5°	330.1	331.8	333.6	334.7	335.3	335.8	336.4	336.9
130°	346.5	348.2	349.9	350.9	351.1	351.4	351.6	351.8
132.5°	362.0	363.7	365.3	366.4	366.8	367.3	367.8	368.2
135°	384.9	386.3	387.8	388.7	389.1	389.4	389.7	390.0
137.5°	407.3	408.6	409.9	410.8	411.4	412.0	412.5	413.1
140°	422.2	423.5	424.7	425.7	426.1	426.5	427.0	427.4
142.5°	436.7	437.9	439.1	439.9	440.3	440.7	441.1	441.5
145°	458.7	459.2	459.8	460.1	460.2	460.3	460.4	460.6
147.5°	478.8	478.8	478.8	478.9	479.1	479.4	479.6	479.9
150°	491.9	491.9	491.9	491.9	491.8	491.7	491.6	491.5
152.5°	504.5	504.7	505.0	504.9	504.7	504.4	504.2	503.9
155°	522.0	522.4	522.8	522.8	522.4	522.0	521.6	521.2
157.5°	537.5	537.8	538.1	538.1	537.8	537.3	537.0	536.6
160°	547.0	547.3	547.6	547.5	547.0	546.5	545.9	545.4
162.5°	555.5	556.1	556.6	556.6	556.1	555.6	555.1	554.6
165°	566.8	567.4	568.0	568.2	567.7	567.3	566.9	566.5
167.5°	576.3	576.9	577.5	577.5	576.9	576.3	575.6	575.0
170°	581.5	582.1	582.7	582.6	581.9	581.2	580.5	579.8
172.5°	585.3	586.0	586.6	586.6	585.9	585.2	584.5	583.8
175°	589.5	590.2	590.9	590.9	590.2	589.5	588.8	588.0
177.5°	591.8	592.3	592.9	592.8	592.2	591.6	590.9	590.3
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7

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