

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: P332723-930

Luminaire Tested: **S124DIW-S350D770U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332723-930
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-S350D770U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3680.0 lumens
Efficiency: N/A
Efficacy: 121.1 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: Semi-Indirect

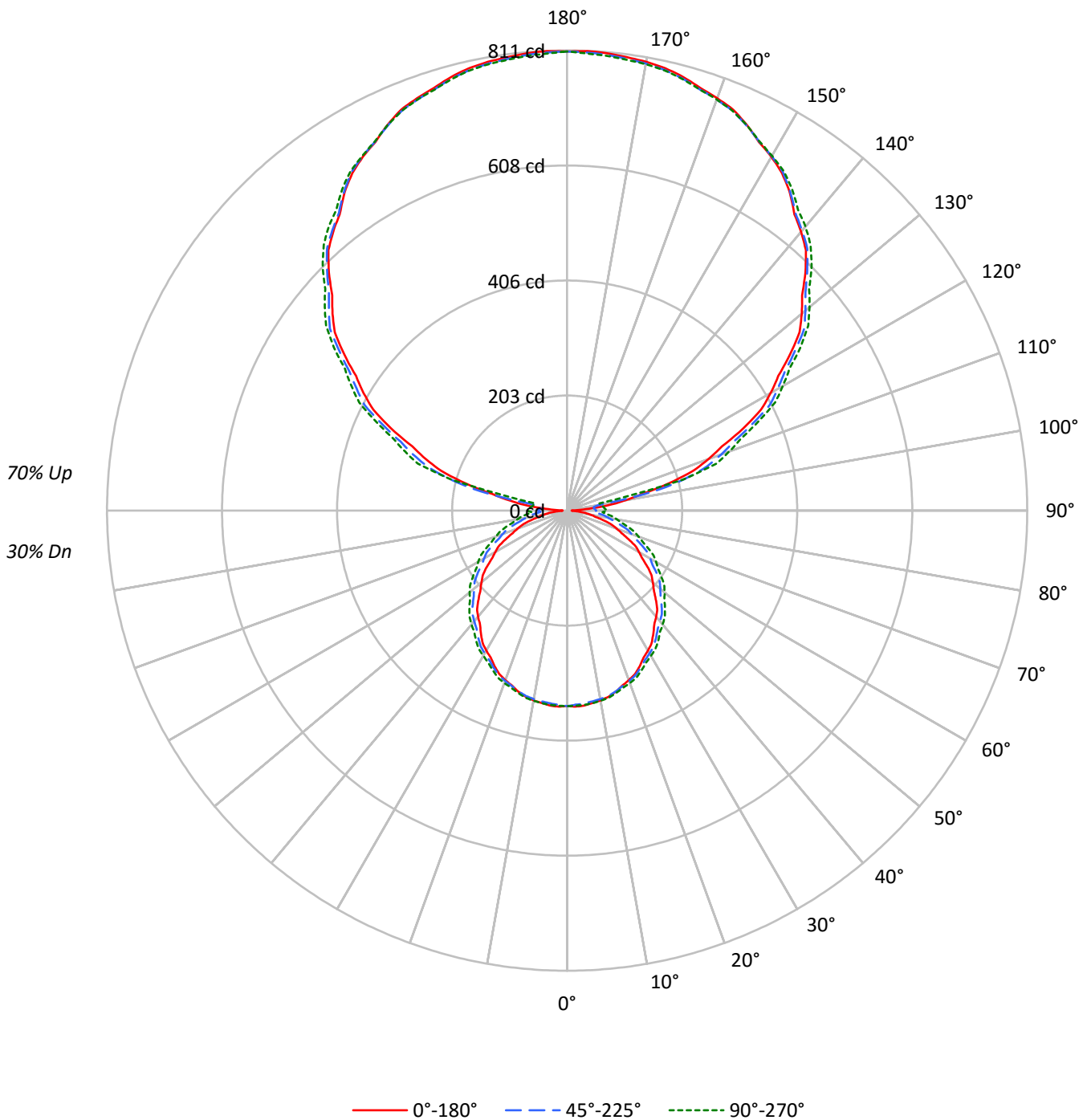
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332723-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	88	84	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8
9	46	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	9	7
10	43	32	24	20	39	29	22	18	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.9
10°-20°	93.5	2.5
20°-30°	141.4	3.8
30°-40°	171.1	4.6
40°-50°	180.8	4.9
50°-60°	170.2	4.6
60°-70°	141.2	3.8
70°-80°	99.2	2.7
80°-90°	58.4	1.6
90°-100°	61.0	1.7
100°-110°	201.1	5.5
110°-120°	354.1	9.6
120°-130°	437.8	11.9
130°-140°	462.5	12.6
140°-150°	429.5	11.7
150°-160°	345.7	9.4
160°-170°	223.0	6.1
170°-180°	76.9	2.1
0°-30°	267.5	7.3
0°-40°	438.6	11.9
0°-60°	789.6	21.5
0°-90°	1088.4	29.6
90°-120°	616.1	16.7
90°-150°	1946.0	52.9
90°-180°	2592.0	70.4
0°-180°	3680.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	8	30	52	66	71	6
95°	38	32	47	60	65	47
105°	186	197	214	228	211	194
115°	342	348	360	369	372	337
125°	480	482	490	499	502	428
135°	594	594	598	606	609	458
145°	684	686	686	689	691	427
155°	750	750	749	751	749	346
165°	791	788	788	792	787	223
175°	809	806	806	811	804	77
180°	809	809	809	809	809	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.8	15.6	19.4	23.2	27.0	30.8	34.8	38.8	42.7	46.7	49.4
90°	8.0	12.9	17.8	22.7	27.6	32.4	37.3	42.0	46.7	51.5	54.8
92.5°	13.5	16.6	19.8	23.0	26.2	30.2	34.9	39.6	44.4	49.2	52.4
95°	38.3	36.5	34.8	33.1	31.3	32.3	36.0	39.6	43.2	46.9	50.0
97.5°	75.3	80.6	85.9	91.1	96.4	93.3	81.8	70.2	58.7	47.1	49.5
100°	103.5	108.1	112.8	117.5	122.1	116.8	101.6	86.4	71.2	55.9	56.0
102.5°	135.4	139.2	142.9	146.7	150.3	152.6	153.5	154.3	155.2	156.0	133.6
105°	185.6	188.2	190.7	193.2	195.8	198.9	202.8	206.6	210.4	214.3	217.6
107.5°	232.8	234.7	236.5	238.3	240.1	243.0	246.9	250.8	254.7	258.6	261.4
110°	264.6	266.1	267.7	269.4	270.9	273.6	277.4	281.3	285.1	288.9	291.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	295.2	297.0	298.8	300.6	302.4	304.8	308.1	311.4	314.6	317.8	319.7
115°	342.4	343.6	344.8	345.9	347.2	349.0	351.6	354.2	356.9	359.5	361.6
117.5°	385.3	386.3	387.3	388.3	389.3	391.3	394.1	397.0	399.8	402.7	404.4
120°	414.1	414.8	415.6	416.5	417.3	418.8	421.2	423.5	425.9	428.2	430.2
122.5°	441.2	441.6	441.9	442.3	442.7	444.1	446.7	449.2	451.8	454.3	456.2
125°	479.6	480.1	480.5	481.0	481.4	482.6	484.5	486.3	488.2	490.1	492.1
127.5°	516.3	516.4	516.5	516.5	516.6	517.7	520.0	522.3	524.5	526.8	528.2
130°	539.8	539.8	539.9	539.9	540.0	540.9	542.7	544.5	546.2	548.0	549.7
132.5°	561.6	561.7	561.9	562.1	562.1	563.0	564.7	566.3	567.9	569.5	571.1
135°	593.9	593.7	593.6	593.5	593.3	593.8	594.9	596.1	597.2	598.3	600.0
137.5°	622.8	622.7	622.7	622.7	622.6	623.1	623.9	624.8	625.7	626.6	628.2
140°	641.6	641.9	642.0	642.2	642.4	642.7	643.0	643.4	643.8	644.1	645.6
142.5°	658.3	658.8	659.3	659.7	660.1	660.5	660.6	660.6	660.8	660.9	662.2
145°	684.3	684.5	684.9	685.2	685.5	685.7	685.7	685.7	685.7	685.7	686.3
147.5°	704.9	705.6	706.3	706.9	707.6	707.8	707.8	707.6	707.4	707.4	707.5
150°	720.0	720.4	720.9	721.3	721.8	721.9	721.8	721.6	721.5	721.4	721.4
152.5°	732.2	732.6	733.0	733.4	733.9	733.9	733.7	733.5	733.3	733.0	733.2
155°	749.8	750.0	750.1	750.2	750.4	750.2	749.8	749.4	749.0	748.6	749.2
157.5°	764.8	764.7	764.6	764.5	764.4	764.1	763.7	763.2	762.7	762.3	763.0
160°	773.4	773.0	772.7	772.3	771.8	771.5	771.4	771.3	771.1	771.0	771.8
162.5°	781.1	780.6	780.2	779.7	779.1	778.8	778.7	778.5	778.4	778.3	779.1
165°	791.0	790.3	789.6	789.0	788.3	788.0	788.0	788.0	788.0	788.0	789.0
167.5°	798.7	798.0	797.4	796.6	795.9	795.6	795.5	795.4	795.3	795.2	796.4
170°	803.1	802.3	801.4	800.6	799.9	799.5	799.6	799.8	799.9	800.1	801.1
172.5°	806.0	805.2	804.4	803.6	802.7	802.4	802.6	802.7	802.8	803.0	804.0
175°	809.1	808.3	807.6	806.7	805.9	805.6	805.7	805.8	806.0	806.1	807.3
177.5°	810.6	809.8	809.1	808.3	807.6	807.3	807.6	807.7	808.0	808.1	809.0
180°	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	52.0	54.7	57.3	59.0	59.8	60.7	61.5	62.3
90°	58.1	61.4	64.7	66.9	67.8	68.7	69.7	70.6
92.5°	55.6	58.9	62.0	64.1	64.8	65.6	66.3	67.0
95°	53.2	56.3	59.4	61.4	62.3	63.2	64.1	65.0
97.5°	51.9	54.1	56.5	58.0	58.9	59.8	60.7	61.6
100°	56.0	56.0	56.1	56.4	57.2	57.9	58.6	59.4
102.5°	111.3	88.9	66.4	55.5	56.3	56.9	57.6	58.4
105°	221.0	224.4	227.7	227.3	223.1	219.0	214.8	210.7
107.5°	264.1	266.8	269.5	271.3	272.5	273.6	274.8	275.9
110°	293.3	295.6	297.8	299.5	300.6	301.7	302.8	303.9



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CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.6	323.4	325.2	326.8	328.0	329.1	330.4	331.6
115°	363.8	365.9	368.1	369.5	370.1	370.6	371.3	371.9
117.5°	406.1	407.8	409.6	410.7	411.4	412.1	412.6	413.3
120°	432.2	434.1	436.2	437.3	437.8	438.2	438.6	439.0
122.5°	458.0	459.9	461.8	462.9	463.3	463.6	463.9	464.3
125°	494.2	496.2	498.2	499.6	500.3	500.9	501.6	502.1
127.5°	529.7	531.2	532.6	533.6	534.1	534.5	535.0	535.5
130°	551.3	553.0	554.7	555.8	556.3	556.8	557.3	557.8
132.5°	572.7	574.3	575.9	577.0	577.4	577.8	578.1	578.5
135°	601.7	603.3	605.0	606.2	606.9	607.7	608.5	609.3
137.5°	629.7	631.3	632.8	633.7	634.1	634.5	634.8	635.1
140°	647.1	648.7	650.1	651.2	651.8	652.3	652.9	653.5
142.5°	663.4	664.7	666.0	666.8	667.2	667.6	668.0	668.4
145°	687.0	687.6	688.3	688.9	689.5	690.2	690.7	691.4
147.5°	707.7	707.8	708.0	708.3	708.7	709.1	709.6	710.0
150°	721.4	721.4	721.4	721.5	721.6	721.7	721.9	721.9
152.5°	733.4	733.6	733.9	733.9	733.9	733.8	733.7	733.6
155°	749.7	750.2	750.7	750.8	750.4	750.0	749.6	749.3
157.5°	763.7	764.4	765.1	765.1	764.4	763.7	763.0	762.3
160°	772.7	773.4	774.2	774.2	773.4	772.7	771.8	771.0
162.5°	779.9	780.6	781.5	781.5	780.6	779.6	778.7	777.8
165°	790.1	791.2	792.2	792.2	791.0	789.8	788.6	787.3
167.5°	797.6	798.7	800.0	799.9	798.5	797.2	795.8	794.5
170°	802.2	803.3	804.4	804.2	802.9	801.5	800.2	798.8
172.5°	805.1	806.2	807.2	807.1	805.6	804.2	802.7	801.3
175°	808.5	809.8	811.0	810.7	809.1	807.6	805.9	804.3
177.5°	809.9	810.7	811.6	811.4	810.1	808.8	807.6	806.2
180°	809.1	809.1	809.1	809.1	809.1	809.1	809.1	809.1

(END OF REPORT)