

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: P332502-940

Luminaire Tested: **SA4XXDIP-C350D590U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332502-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D590U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

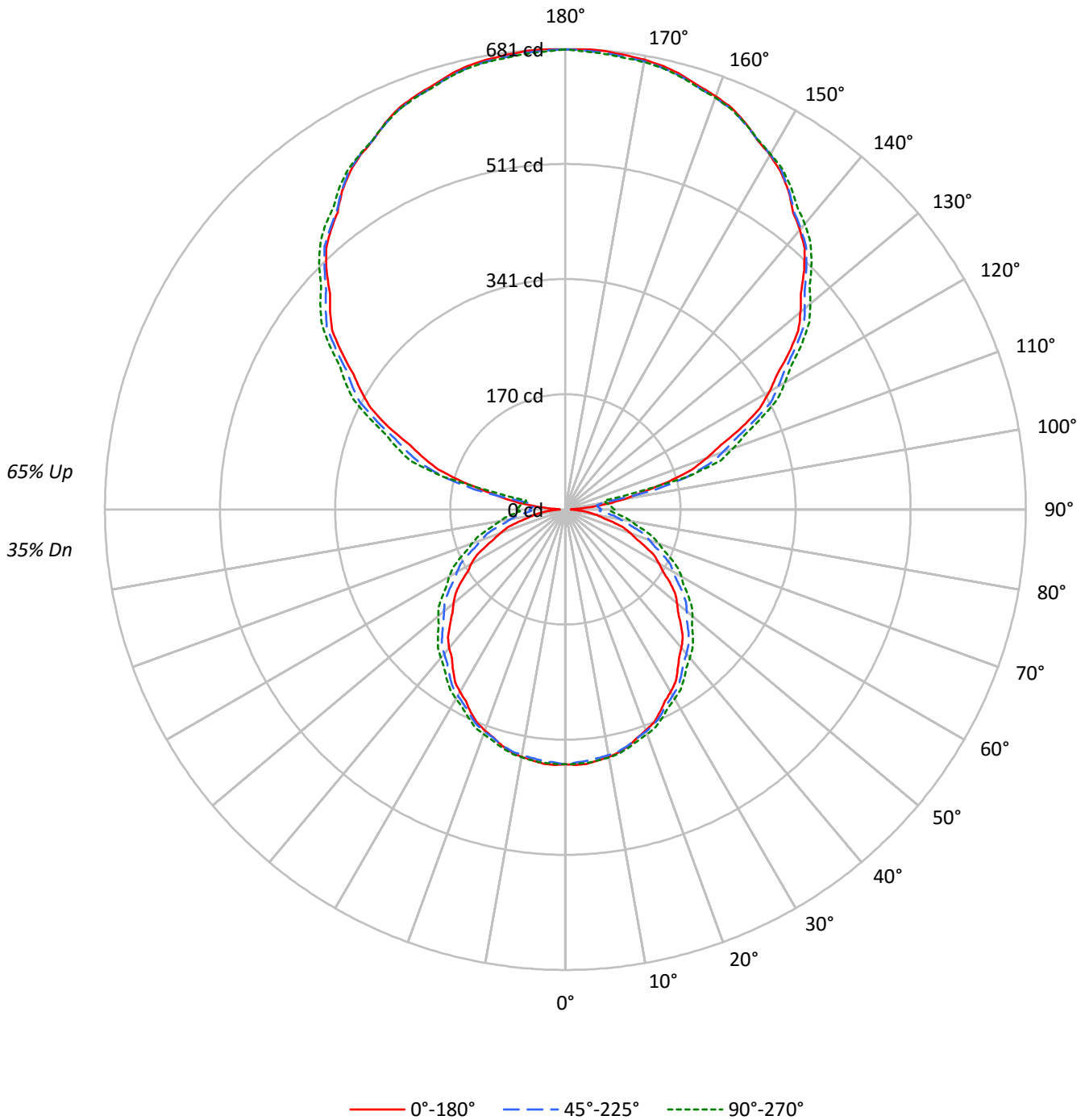
Lumens per Lamp: N/A
Luminaire Lumens: 3390.5 lumens
Efficiency: N/A
Efficacy: 132.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 25.6
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





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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	50	30	10	0	
RCR																						
0	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35				
1	94	89	85	81	84	81	77	74	65	62	60	50	48	47	36	35	34	28				
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	32	30	28	23				
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	28	26	24	19				
4	71	60	52	46	63	54	47	42	44	38	34	34	30	27	25	22	20	16				
5	65	53	45	39	58	48	41	36	39	34	29	30	26	23	22	20	17	14				
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12				
7	55	43	35	29	49	39	32	27	31	26	22	25	21	18	18	15	13	11				
8	51	38	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9				
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8				
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.7	1.1
10°-20°	102.3	3.0
20°-30°	154.6	4.6
30°-40°	187.1	5.5
40°-50°	197.8	5.8
50°-60°	186.2	5.5
60°-70°	154.4	4.6
70°-80°	108.5	3.2
80°-90°	63.3	1.9
90°-100°	59.7	1.8
100°-110°	175.3	5.2
110°-120°	301.8	8.9
120°-130°	370.4	10.9
130°-140°	389.7	11.5
140°-150°	361.2	10.7
150°-160°	290.6	8.6
160°-170°	187.4	5.5
170°-180°	64.6	1.9
0°-30°	292.6	8.6
0°-40°	479.7	14.1
0°-60°	863.6	25.5
0°-90°	1189.8	35.1
90°-120°	536.7	15.8
90°-150°	1658.1	48.9
90°-180°	2201.0	64.9
0°-180°	3390.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	8	31	53	68	73	6
95°	33	31	48	62	67	40
105°	157	169	186	200	187	164
115°	288	294	307	317	320	284
125°	404	406	415	424	427	360
135°	499	499	504	511	515	385
145°	575	576	576	579	582	359
155°	630	631	629	631	630	291
165°	665	662	662	666	662	188
175°	680	677	678	682	676	65
180°	680	680	680	680	680	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.8	16.9	21.0	25.1	29.1	33.3	37.5	41.8	46.2	50.5	53.3
90°	8.3	13.3	18.3	23.3	28.3	33.3	38.2	43.1	48.1	53.0	56.4
92.5°	12.8	16.2	19.7	23.2	26.6	30.8	35.8	40.7	45.6	50.6	53.9
95°	33.4	32.7	31.9	31.2	30.5	32.1	36.0	40.0	44.0	47.9	51.1
97.5°	64.4	69.5	74.5	79.5	84.6	82.8	73.9	65.2	56.4	47.5	50.0
100°	88.1	92.6	97.0	101.5	105.9	102.2	90.2	78.4	66.4	54.5	55.1
102.5°	114.9	118.5	122.2	125.8	129.5	132.1	133.6	135.1	136.7	138.2	119.9
105°	156.9	159.4	162.0	164.6	167.1	170.4	174.4	178.5	182.5	186.5	189.9
107.5°	196.6	198.5	200.4	202.2	204.1	207.1	211.2	215.2	219.2	223.3	226.0
110°	223.1	224.8	226.4	228.1	229.7	232.6	236.5	240.5	244.4	248.3	250.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	248.8	250.6	252.4	254.1	255.9	258.5	262.0	265.5	268.9	272.3	274.4
115°	288.4	289.5	290.8	291.9	293.1	295.2	298.0	301.0	303.8	306.7	309.0
117.5°	324.4	325.4	326.4	327.3	328.2	330.3	333.3	336.4	339.4	342.4	344.4
120°	348.5	349.2	350.0	350.7	351.4	353.1	355.7	358.3	361.0	363.6	365.6
122.5°	371.3	371.6	371.9	372.3	372.6	374.2	376.8	379.6	382.3	385.0	387.1
125°	403.5	403.9	404.2	404.6	404.9	406.2	408.3	410.5	412.6	414.6	416.8
127.5°	434.4	434.4	434.4	434.4	434.4	435.6	437.9	440.2	442.6	444.9	446.5
130°	454.0	454.0	454.0	454.1	454.1	455.0	456.8	458.7	460.5	462.4	464.1
132.5°	472.3	472.4	472.5	472.6	472.7	473.6	475.2	476.9	478.5	480.1	481.8
135°	499.4	499.2	499.1	499.0	498.9	499.4	500.5	501.6	502.7	503.8	505.5
137.5°	523.6	523.6	523.5	523.5	523.4	523.8	524.7	525.5	526.3	527.1	528.7
140°	539.5	539.7	539.8	539.9	540.0	540.3	540.6	540.9	541.3	541.5	543.1
142.5°	553.4	553.8	554.2	554.6	555.0	555.2	555.3	555.4	555.4	555.5	556.9
145°	575.2	575.4	575.7	576.0	576.2	576.3	576.3	576.3	576.3	576.3	577.0
147.5°	592.6	593.2	593.7	594.2	594.8	594.9	594.9	594.8	594.6	594.5	594.7
150°	605.2	605.6	605.9	606.3	606.6	606.8	606.6	606.5	606.5	606.3	606.3
152.5°	615.5	615.8	616.2	616.4	616.8	616.9	616.7	616.5	616.3	616.1	616.3
155°	630.3	630.4	630.4	630.5	630.7	630.5	630.3	629.9	629.5	629.2	629.6
157.5°	642.7	642.7	642.6	642.6	642.5	642.2	641.9	641.5	641.1	640.7	641.3
160°	650.1	649.7	649.3	649.1	648.7	648.5	648.4	648.3	648.1	648.0	648.7
162.5°	656.6	656.1	655.7	655.3	654.9	654.6	654.4	654.3	654.2	654.2	654.8
165°	664.8	664.2	663.7	663.1	662.5	662.3	662.3	662.3	662.3	662.3	663.2
167.5°	671.3	670.7	670.1	669.6	669.0	668.6	668.6	668.5	668.4	668.3	669.4
170°	675.0	674.3	673.6	673.0	672.3	672.0	672.1	672.2	672.3	672.4	673.3
172.5°	677.4	676.7	676.1	675.4	674.8	674.4	674.6	674.7	674.8	674.8	675.8
175°	680.1	679.4	678.7	678.1	677.3	677.1	677.2	677.3	677.4	677.5	678.5
177.5°	681.3	680.6	680.0	679.4	678.8	678.5	678.7	678.9	679.0	679.2	680.0
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	56.2	59.0	61.9	63.8	64.6	65.5	66.3	67.2
90°	59.7	63.1	66.6	68.8	69.7	70.7	71.7	72.7
92.5°	57.2	60.5	63.8	65.9	66.7	67.5	68.3	69.1
95°	54.3	57.5	60.7	62.9	63.8	64.7	65.7	66.7
97.5°	52.6	55.1	57.6	59.4	60.3	61.2	62.2	63.0
100°	55.6	56.3	56.9	57.6	58.3	59.1	59.9	60.6
102.5°	101.7	83.4	65.1	56.4	57.2	57.9	58.7	59.4
105°	193.3	196.6	200.0	200.0	196.7	193.4	190.1	186.7
107.5°	228.9	231.7	234.5	236.5	237.6	238.6	239.8	240.9
110°	253.2	255.6	257.9	259.7	260.7	261.8	262.9	264.0



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CATALOG NUMBER: SA4XXDIP-C350D590U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	278.4	280.4	282.0	283.3	284.5	285.6	286.8
115°	311.3	313.6	315.8	317.4	318.0	318.7	319.3	319.9
117.5°	346.3	348.1	350.1	351.3	352.0	352.8	353.5	354.2
120°	367.7	369.9	371.9	373.3	373.8	374.3	374.8	375.3
122.5°	389.1	391.1	393.1	394.3	394.8	395.2	395.7	396.1
125°	418.9	421.1	423.1	424.5	425.3	425.9	426.6	427.2
127.5°	448.2	449.8	451.4	452.5	453.0	453.5	454.1	454.7
130°	465.9	467.7	469.6	470.7	471.3	471.8	472.4	473.0
132.5°	483.6	485.3	487.1	488.1	488.6	489.1	489.5	490.0
135°	507.3	509.0	510.7	511.9	512.7	513.5	514.3	515.1
137.5°	530.3	531.9	533.6	534.6	534.9	535.4	535.7	536.2
140°	544.7	546.3	547.8	548.8	549.5	550.0	550.6	551.2
142.5°	558.1	559.5	560.8	561.7	562.0	562.5	562.9	563.3
145°	577.7	578.4	579.0	579.6	580.2	580.9	581.5	582.0
147.5°	594.9	595.0	595.2	595.5	595.8	596.3	596.7	597.1
150°	606.3	606.3	606.3	606.4	606.5	606.6	606.7	606.8
152.5°	616.4	616.6	616.8	616.9	616.8	616.7	616.6	616.6
155°	630.1	630.5	631.0	631.1	630.7	630.4	630.1	629.7
157.5°	641.9	642.5	643.0	643.0	642.5	641.9	641.3	640.7
160°	649.3	650.1	650.8	650.8	650.1	649.3	648.7	648.0
162.5°	655.5	656.1	656.8	656.8	656.0	655.2	654.5	653.7
165°	664.1	664.9	665.9	665.8	664.8	663.8	662.8	661.7
167.5°	670.4	671.4	672.3	672.3	671.2	670.0	668.9	667.8
170°	674.2	675.1	676.1	675.9	674.8	673.7	672.5	671.5
172.5°	676.7	677.6	678.5	678.3	677.2	675.9	674.7	673.4
175°	679.6	680.6	681.6	681.4	680.1	678.7	677.3	676.0
177.5°	680.7	681.4	682.2	682.0	680.9	679.8	678.7	677.6
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1

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