

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: P332511-935

Luminaire Tested: **SA4XXDIP-C350D810U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332511-935
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-C350D810U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

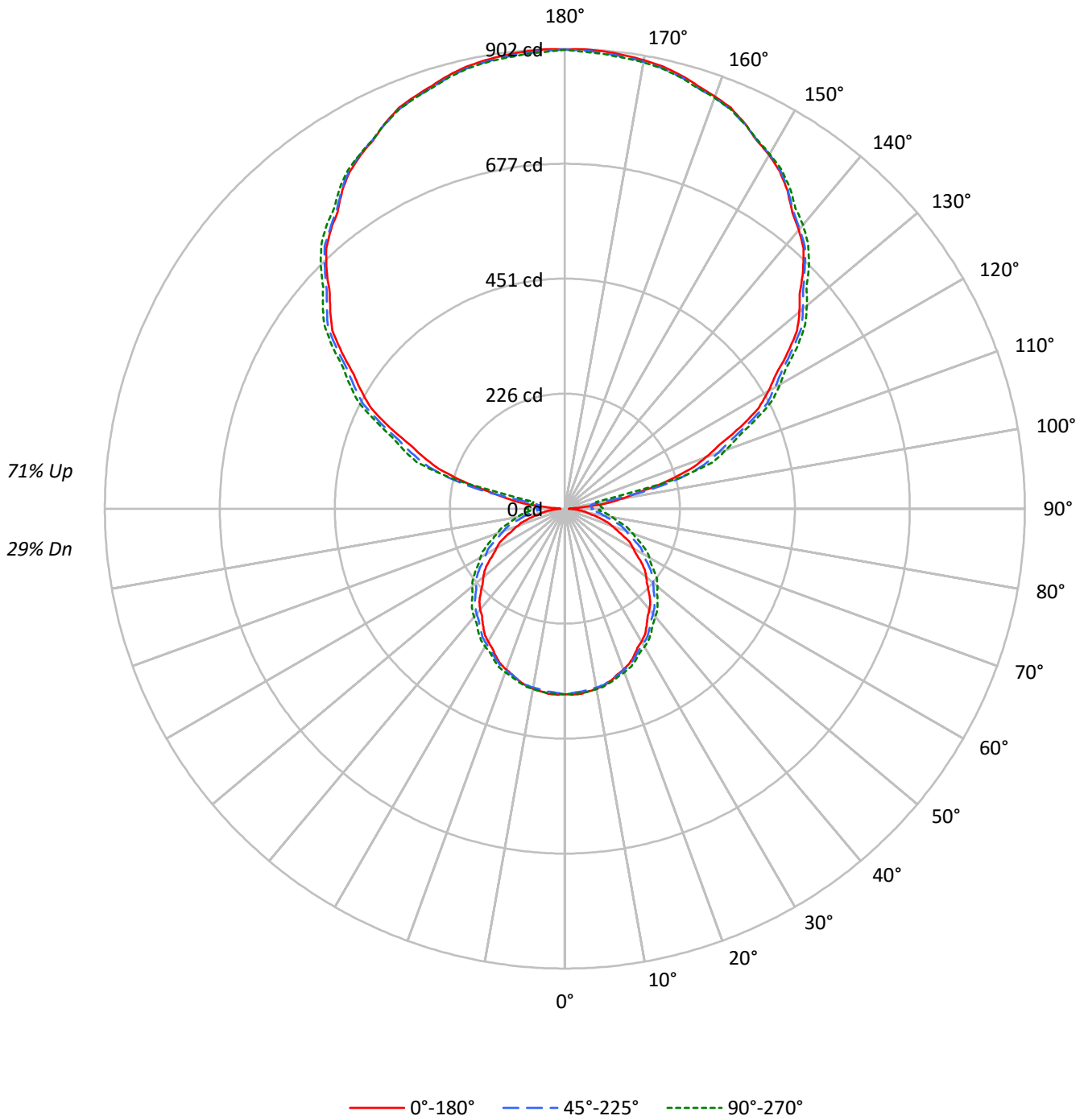
Lumens per Lamp: N/A
Luminaire Lumens: 4027.4 lumens
Efficiency: N/A
Efficacy: 129.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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: P332511-935

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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29				
1	92	88	84	80	82	79	75	72	62	59	57	46	44	43	31	30	30	23				
2	84	76	70	65	75	68	63	59	54	50	47	40	37	35	27	26	24	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	22	20	15				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	21	19	17	13				
5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	19	17	15	11				
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8				
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7				
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.9
10°-20°	98.7	2.5
20°-30°	149.3	3.7
30°-40°	180.7	4.5
40°-50°	191.0	4.7
50°-60°	179.7	4.5
60°-70°	149.1	3.7
70°-80°	104.7	2.6
80°-90°	61.8	1.5
90°-100°	65.9	1.6
100°-110°	222.3	5.5
110°-120°	393.0	9.8
120°-130°	486.5	12.1
130°-140°	514.2	12.8
140°-150°	477.8	11.9
150°-160°	384.6	9.5
160°-170°	248.0	6.2
170°-180°	85.5	2.1
0°-30°	282.5	7.0
0°-40°	463.2	11.5
0°-60°	833.9	20.7
0°-90°	1149.6	28.5
90°-120°	681.2	16.9
90°-150°	2159.7	53.6
90°-180°	2878.0	71.5
0°-180°	4027.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	32	55	70	76	6
95°	42	34	50	65	70	52
105°	206	219	237	251	232	216
115°	381	387	399	409	412	375
125°	534	536	545	554	558	476
135°	661	660	666	673	677	509
145°	761	763	763	766	769	475
155°	834	835	833	835	833	384
165°	880	877	876	881	876	249
175°	900	896	897	902	895	86
180°	900	900	900	900	900	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.5	16.5	20.5	24.5	28.6	32.7	36.9	41.1	45.3	49.5	52.3
90°	8.5	13.8	19.1	24.4	29.6	34.8	39.9	44.9	50.0	55.2	58.7
92.5°	14.6	18.0	21.4	24.7	28.1	32.3	37.4	42.4	47.6	52.7	56.1
95°	42.4	40.2	38.1	36.0	33.9	34.8	38.7	42.5	46.4	50.3	53.6
97.5°	83.4	89.2	95.0	100.7	106.4	102.8	89.7	76.7	63.7	50.7	53.1
100°	114.9	119.9	125.0	130.0	135.1	129.1	111.9	94.8	77.7	60.6	60.5
102.5°	150.4	154.5	158.5	162.6	166.6	169.0	169.8	170.6	171.3	172.0	147.0
105°	206.3	209.1	211.7	214.4	217.1	220.5	224.6	228.8	232.8	236.9	240.6
107.5°	258.9	260.8	262.8	264.7	266.6	269.7	273.9	278.0	282.2	286.5	289.3
110°	294.1	295.8	297.6	299.2	300.9	303.8	307.9	311.9	316.1	320.1	322.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	328.2	330.2	332.1	334.0	336.0	338.6	342.1	345.5	349.0	352.4	354.4
115°	380.8	382.0	383.3	384.6	385.8	387.9	390.6	393.3	396.1	398.8	401.1
117.5°	428.5	429.6	430.7	431.8	432.8	434.9	437.9	441.0	444.0	447.0	448.8
120°	460.5	461.3	462.3	463.1	464.0	465.6	468.1	470.6	473.0	475.5	477.7
122.5°	490.7	491.0	491.5	491.9	492.3	493.9	496.5	499.2	502.0	504.6	506.6
125°	533.5	534.0	534.5	535.0	535.5	536.7	538.7	540.6	542.6	544.6	546.7
127.5°	574.3	574.4	574.5	574.5	574.5	575.8	578.2	580.7	583.1	585.5	587.0
130°	600.4	600.5	600.5	600.5	600.6	601.6	603.5	605.4	607.3	609.2	611.0
132.5°	624.7	624.8	625.0	625.2	625.3	626.3	628.0	629.7	631.5	633.2	634.9
135°	660.6	660.4	660.3	660.1	660.0	660.5	661.8	663.0	664.2	665.5	667.2
137.5°	692.8	692.7	692.7	692.7	692.6	693.1	694.1	695.0	695.9	697.0	698.6
140°	713.8	713.9	714.2	714.4	714.5	714.9	715.2	715.7	716.0	716.4	718.1
142.5°	732.3	732.8	733.3	733.8	734.3	734.7	734.8	734.9	735.0	735.2	736.5
145°	761.1	761.5	761.8	762.2	762.6	762.8	762.8	762.8	762.8	762.8	763.4
147.5°	784.2	784.9	785.7	786.4	787.1	787.5	787.3	787.1	787.0	786.9	787.0
150°	800.8	801.3	801.8	802.4	802.9	803.1	802.9	802.8	802.6	802.5	802.5
152.5°	814.5	815.0	815.5	815.9	816.4	816.5	816.2	816.0	815.6	815.4	815.6
155°	834.1	834.2	834.4	834.6	834.7	834.6	834.1	833.6	833.2	832.8	833.4
157.5°	850.7	850.6	850.5	850.4	850.3	850.0	849.5	849.0	848.5	848.0	848.8
160°	860.4	859.9	859.5	859.0	858.6	858.2	858.2	858.0	857.8	857.6	858.6
162.5°	869.0	868.4	867.8	867.3	866.7	866.3	866.2	866.1	865.9	865.7	866.7
165°	879.9	879.2	878.4	877.6	876.9	876.5	876.5	876.5	876.5	876.5	877.7
167.5°	888.5	887.7	886.9	886.1	885.4	884.9	884.8	884.8	884.7	884.6	885.9
170°	893.4	892.4	891.6	890.6	889.8	889.4	889.5	889.7	889.8	890.0	891.1
172.5°	896.6	895.7	894.8	893.9	893.0	892.6	892.8	892.9	893.0	893.2	894.4
175°	900.1	899.1	898.3	897.4	896.5	896.1	896.3	896.4	896.6	896.7	898.0
177.5°	901.7	900.9	900.0	899.1	898.4	898.0	898.3	898.5	898.8	899.0	899.9
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	55.1	57.9	60.7	62.6	63.5	64.2	65.1	66.0
90°	62.2	65.7	69.2	71.5	72.6	73.6	74.6	75.6
92.5°	59.6	63.0	66.5	68.6	69.4	70.2	70.9	71.7
95°	56.9	60.3	63.6	65.8	66.7	67.8	68.7	69.7
97.5°	55.6	58.1	60.5	62.3	63.2	64.1	65.0	66.0
100°	60.4	60.3	60.2	60.5	61.3	62.1	62.9	63.7
102.5°	121.9	96.9	71.8	59.7	60.4	61.1	61.8	62.6
105°	244.2	247.8	251.4	250.9	246.2	241.5	236.9	232.2
107.5°	292.2	295.1	298.0	300.0	301.3	302.5	303.7	304.9
110°	324.9	327.3	329.7	331.4	332.6	333.8	334.9	336.1



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CATALOG NUMBER: SA4XXDIP-C350D810U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	356.3	358.3	360.2	361.9	363.2	364.5	365.8	367.0
115°	403.5	405.7	408.0	409.5	410.1	410.8	411.4	412.0
117.5°	450.6	452.5	454.3	455.6	456.2	456.9	457.5	458.2
120°	479.7	481.9	484.0	485.3	485.7	486.1	486.6	487.0
122.5°	508.6	510.6	512.6	513.8	514.1	514.4	514.8	515.1
125°	549.0	551.1	553.3	554.7	555.4	556.1	556.8	557.5
127.5°	588.6	590.1	591.7	592.7	593.1	593.7	594.2	594.7
130°	612.8	614.5	616.3	617.4	618.0	618.5	619.1	619.7
132.5°	636.6	638.3	640.0	641.1	641.5	642.0	642.4	642.8
135°	668.9	670.7	672.4	673.7	674.6	675.4	676.2	677.1
137.5°	700.3	701.9	703.5	704.6	704.9	705.2	705.7	706.0
140°	719.7	721.3	723.0	724.0	724.6	725.2	725.8	726.4
142.5°	737.9	739.3	740.6	741.5	741.9	742.4	742.7	743.1
145°	764.1	764.8	765.5	766.2	766.9	767.5	768.2	768.9
147.5°	787.2	787.4	787.6	787.9	788.3	788.8	789.3	789.7
150°	802.5	802.5	802.5	802.5	802.7	802.8	803.0	803.1
152.5°	815.9	816.1	816.3	816.4	816.3	816.2	816.1	816.1
155°	834.0	834.6	835.2	835.3	834.7	834.3	833.9	833.4
157.5°	849.5	850.3	851.1	851.1	850.3	849.5	848.8	848.0
160°	859.5	860.4	861.3	861.3	860.4	859.5	858.6	857.6
162.5°	867.5	868.4	869.4	869.3	868.2	867.2	866.3	865.2
165°	878.9	880.1	881.3	881.2	879.9	878.6	877.2	875.8
167.5°	887.3	888.6	889.8	889.8	888.3	886.7	885.3	883.8
170°	892.3	893.5	894.8	894.6	893.1	891.7	890.1	888.6
172.5°	895.6	896.8	898.0	897.8	896.2	894.6	892.9	891.3
175°	899.4	900.8	902.1	901.9	900.1	898.3	896.5	894.7
177.5°	901.0	901.9	902.8	902.6	901.1	899.7	898.3	896.8
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1

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