

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: P332502-830

Luminaire Tested: **SA4XXDIP-C350D590U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332502-830
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-C350D590U830-4F0-1E-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

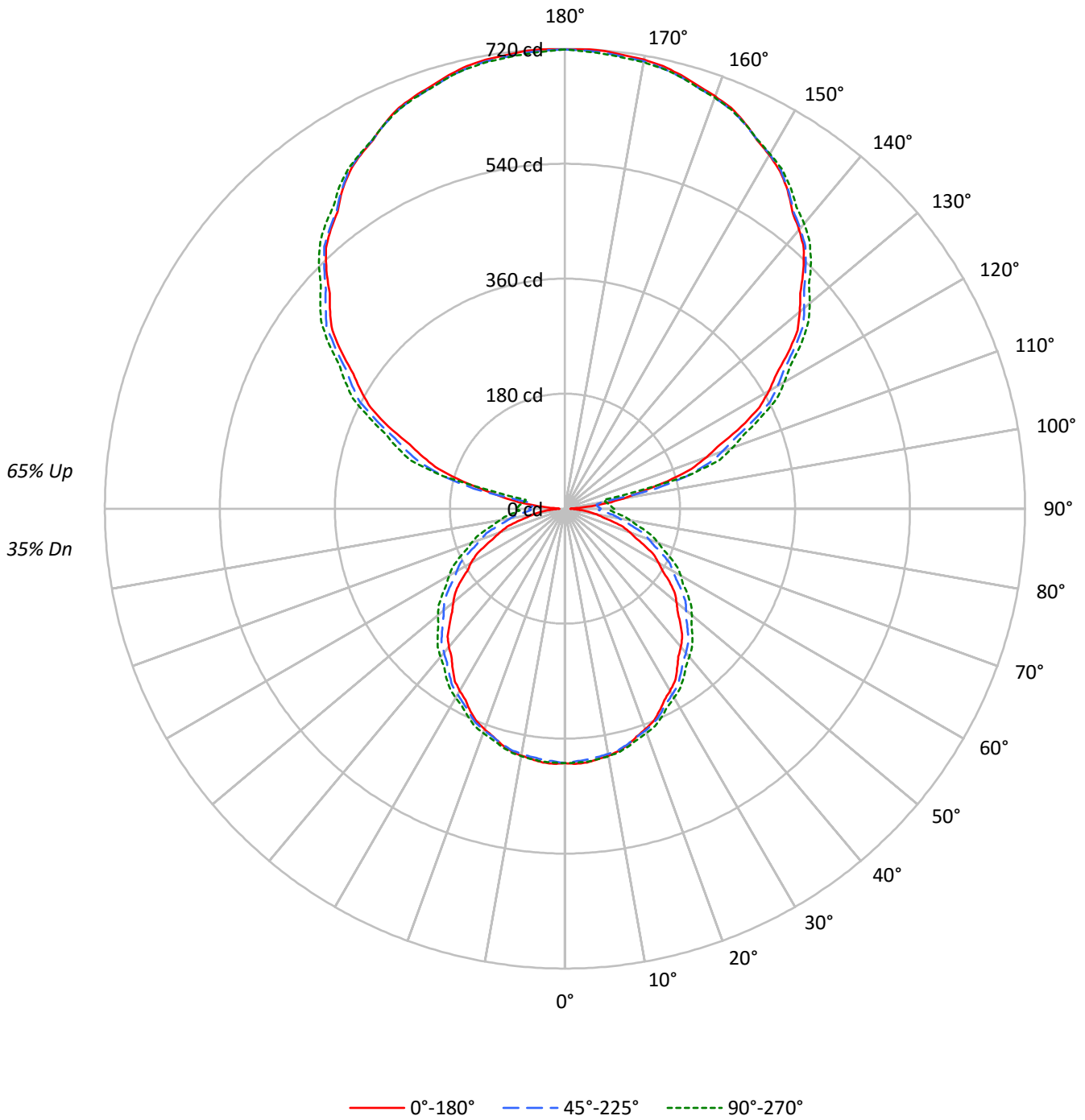
Lumens per Lamp: N/A
Luminaire Lumens: 3583.7 lumens
Efficiency: N/A
Efficacy: 140.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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



TEST NUMBER: P332502-830
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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°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	1.1
10°-20°	108.1	3.0
20°-30°	163.4	4.6
30°-40°	197.8	5.5
40°-50°	209.1	5.8
50°-60°	196.8	5.5
60°-70°	163.2	4.6
70°-80°	114.7	3.2
80°-90°	66.9	1.9
90°-100°	63.1	1.8
100°-110°	185.3	5.2
110°-120°	319.0	8.9
120°-130°	391.5	10.9
130°-140°	412.0	11.5
140°-150°	381.8	10.7
150°-160°	307.1	8.6
160°-170°	198.1	5.5
170°-180°	68.3	1.9
0°-30°	309.3	8.6
0°-40°	507.0	14.1
0°-60°	912.9	25.5
0°-90°	1257.7	35.1
90°-120°	567.3	15.8
90°-150°	1752.5	48.9
90°-180°	2326.0	64.9
0°-180°	3583.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	9	33	56	72	77	6
95°	35	33	51	65	70	43
105°	166	178	197	211	197	174
115°	305	311	324	335	338	300
125°	426	429	438	448	452	381
135°	528	528	532	540	544	407
145°	608	609	609	612	615	380
155°	666	667	665	667	666	307
165°	703	700	700	704	700	198
175°	719	716	716	720	714	68
180°	719	719	719	719	719	



TEST NUMBER: P332502-830

CATALOG NUMBER: SA4XXDIP-C350D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.6	17.8	22.1	26.5	30.7	35.2	39.7	44.2	48.8	53.3	56.4
90°	8.8	14.0	19.3	24.6	29.9	35.2	40.3	45.5	50.8	56.0	59.6
92.5°	13.6	17.2	20.8	24.5	28.1	32.5	37.8	43.0	48.2	53.4	56.9
95°	35.3	34.6	33.7	33.0	32.2	33.9	38.1	42.3	46.5	50.6	54.0
97.5°	68.1	73.4	78.8	84.1	89.4	87.5	78.1	68.9	59.6	50.2	52.9
100°	93.1	97.8	102.5	107.3	112.0	108.0	95.4	82.8	70.2	57.6	58.2
102.5°	121.5	125.3	129.1	133.0	136.9	139.6	141.2	142.8	144.5	146.1	126.8
105°	165.9	168.5	171.3	174.0	176.6	180.1	184.4	188.7	192.9	197.2	200.8
107.5°	207.8	209.8	211.8	213.8	215.7	218.9	223.2	227.4	231.7	236.0	238.9
110°	235.8	237.6	239.3	241.1	242.8	245.8	250.0	254.2	258.4	262.5	265.0



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CATALOG NUMBER: SA4XXDIP-C350D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	263.0	264.9	266.7	268.6	270.5	273.2	276.9	280.6	284.2	287.9	290.0
115°	304.8	306.0	307.4	308.6	309.8	312.0	315.0	318.1	321.1	324.2	326.6
117.5°	342.9	343.9	345.0	346.0	346.9	349.1	352.3	355.5	358.7	361.9	364.0
120°	368.3	369.1	369.9	370.7	371.5	373.2	376.0	378.7	381.5	384.3	386.4
122.5°	392.5	392.8	393.1	393.5	393.9	395.5	398.3	401.2	404.1	407.0	409.2
125°	426.5	426.9	427.3	427.6	428.0	429.3	431.6	433.9	436.1	438.3	440.5
127.5°	459.1	459.1	459.2	459.2	459.2	460.4	462.9	465.3	467.8	470.2	471.9
130°	479.8	479.8	479.8	479.9	479.9	480.9	482.9	484.8	486.7	488.7	490.6
132.5°	499.2	499.4	499.5	499.5	499.6	500.6	502.3	504.1	505.8	507.5	509.3
135°	527.8	527.6	527.5	527.4	527.4	527.8	529.0	530.2	531.3	532.5	534.3
137.5°	553.5	553.5	553.4	553.4	553.3	553.6	554.6	555.4	556.3	557.1	558.8
140°	570.2	570.4	570.5	570.7	570.8	571.1	571.4	571.7	572.1	572.4	574.1
142.5°	584.9	585.4	585.8	586.2	586.6	586.8	586.9	587.0	587.1	587.2	588.6
145°	608.0	608.2	608.5	608.8	609.1	609.2	609.2	609.2	609.2	609.2	609.9
147.5°	626.4	627.0	627.5	628.1	628.7	628.9	628.8	628.7	628.5	628.4	628.6
150°	639.7	640.1	640.5	640.8	641.2	641.4	641.2	641.1	641.0	640.8	640.8
152.5°	650.5	650.9	651.3	651.6	652.0	652.1	651.9	651.7	651.4	651.2	651.4
155°	666.2	666.3	666.4	666.5	666.7	666.5	666.2	665.8	665.4	665.1	665.5
157.5°	679.4	679.3	679.2	679.2	679.1	678.8	678.4	678.1	677.6	677.2	677.9
160°	687.1	686.7	686.4	686.1	685.7	685.4	685.3	685.2	685.0	684.9	685.7
162.5°	694.0	693.5	693.1	692.7	692.2	691.9	691.7	691.6	691.5	691.4	692.1
165°	702.7	702.1	701.5	700.9	700.3	700.0	700.0	700.0	700.0	700.0	701.0
167.5°	709.5	709.0	708.3	707.8	707.1	706.7	706.7	706.6	706.5	706.4	707.6
170°	713.5	712.8	712.0	711.3	710.6	710.3	710.4	710.5	710.7	710.8	711.7
172.5°	716.0	715.3	714.6	713.9	713.2	712.8	713.0	713.1	713.2	713.3	714.4
175°	718.9	718.1	717.4	716.7	716.0	715.7	715.8	716.0	716.0	716.1	717.2
177.5°	720.1	719.4	718.8	718.1	717.5	717.2	717.4	717.6	717.7	717.9	718.8
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9



TEST NUMBER: P332502-830

CATALOG NUMBER: SA4XXDIP-C350D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	59.4	62.4	65.4	67.4	68.2	69.2	70.1	71.1
90°	63.2	66.7	70.4	72.7	73.7	74.7	75.8	76.8
92.5°	60.4	64.0	67.5	69.7	70.5	71.4	72.2	73.0
95°	57.4	60.8	64.2	66.4	67.4	68.4	69.5	70.5
97.5°	55.6	58.2	60.9	62.8	63.7	64.7	65.7	66.6
100°	58.8	59.5	60.1	60.9	61.6	62.5	63.3	64.1
102.5°	107.4	88.1	68.8	59.6	60.4	61.2	62.0	62.8
105°	204.3	207.8	211.4	211.4	207.9	204.4	201.0	197.4
107.5°	242.0	244.9	247.9	250.0	251.1	252.2	253.4	254.6
110°	267.6	270.1	272.6	274.5	275.6	276.7	277.9	279.1



TEST NUMBER: P332502-830

CATALOG NUMBER: SA4XXDIP-C350D590U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	292.2	294.3	296.4	298.1	299.4	300.7	301.9	303.1
115°	329.0	331.5	333.8	335.5	336.1	336.9	337.5	338.2
117.5°	366.0	368.0	370.0	371.4	372.1	372.9	373.6	374.4
120°	388.7	391.0	393.1	394.5	395.1	395.7	396.2	396.7
122.5°	411.2	413.4	415.5	416.8	417.3	417.7	418.2	418.7
125°	442.8	445.1	447.2	448.7	449.5	450.2	450.9	451.6
127.5°	473.7	475.4	477.1	478.2	478.8	479.4	480.0	480.6
130°	492.5	494.4	496.3	497.6	498.1	498.7	499.4	499.9
132.5°	511.1	512.9	514.8	515.9	516.4	517.0	517.5	517.9
135°	536.2	538.0	539.8	541.1	542.0	542.8	543.7	544.5
137.5°	560.5	562.2	564.0	565.1	565.4	565.9	566.3	566.8
140°	575.7	577.4	579.0	580.1	580.8	581.4	582.0	582.6
142.5°	589.9	591.4	592.8	593.7	594.1	594.6	595.0	595.4
145°	610.6	611.3	612.0	612.7	613.3	614.0	614.6	615.2
147.5°	628.8	629.0	629.1	629.4	629.8	630.3	630.7	631.1
150°	640.8	640.8	640.8	640.9	641.0	641.2	641.3	641.4
152.5°	651.6	651.8	652.0	652.1	652.0	651.9	651.8	651.8
155°	666.0	666.5	666.9	667.0	666.7	666.3	666.0	665.6
157.5°	678.4	679.1	679.7	679.7	679.1	678.4	677.9	677.2
160°	686.4	687.1	687.9	687.9	687.1	686.4	685.7	684.9
162.5°	692.9	693.5	694.3	694.3	693.4	692.6	691.8	691.0
165°	701.9	702.9	703.9	703.8	702.7	701.6	700.6	699.5
167.5°	708.6	709.6	710.7	710.6	709.5	708.2	707.0	705.9
170°	712.7	713.6	714.6	714.4	713.3	712.1	710.9	709.7
172.5°	715.3	716.2	717.2	717.0	715.8	714.4	713.1	711.8
175°	718.3	719.3	720.5	720.3	718.9	717.4	716.0	714.5
177.5°	719.5	720.3	721.0	720.9	719.7	718.6	717.4	716.2
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9

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