

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: P332493-830

Luminaire Tested: **SA4XXDIP-C350D365U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332493-830  
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-C350D365U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

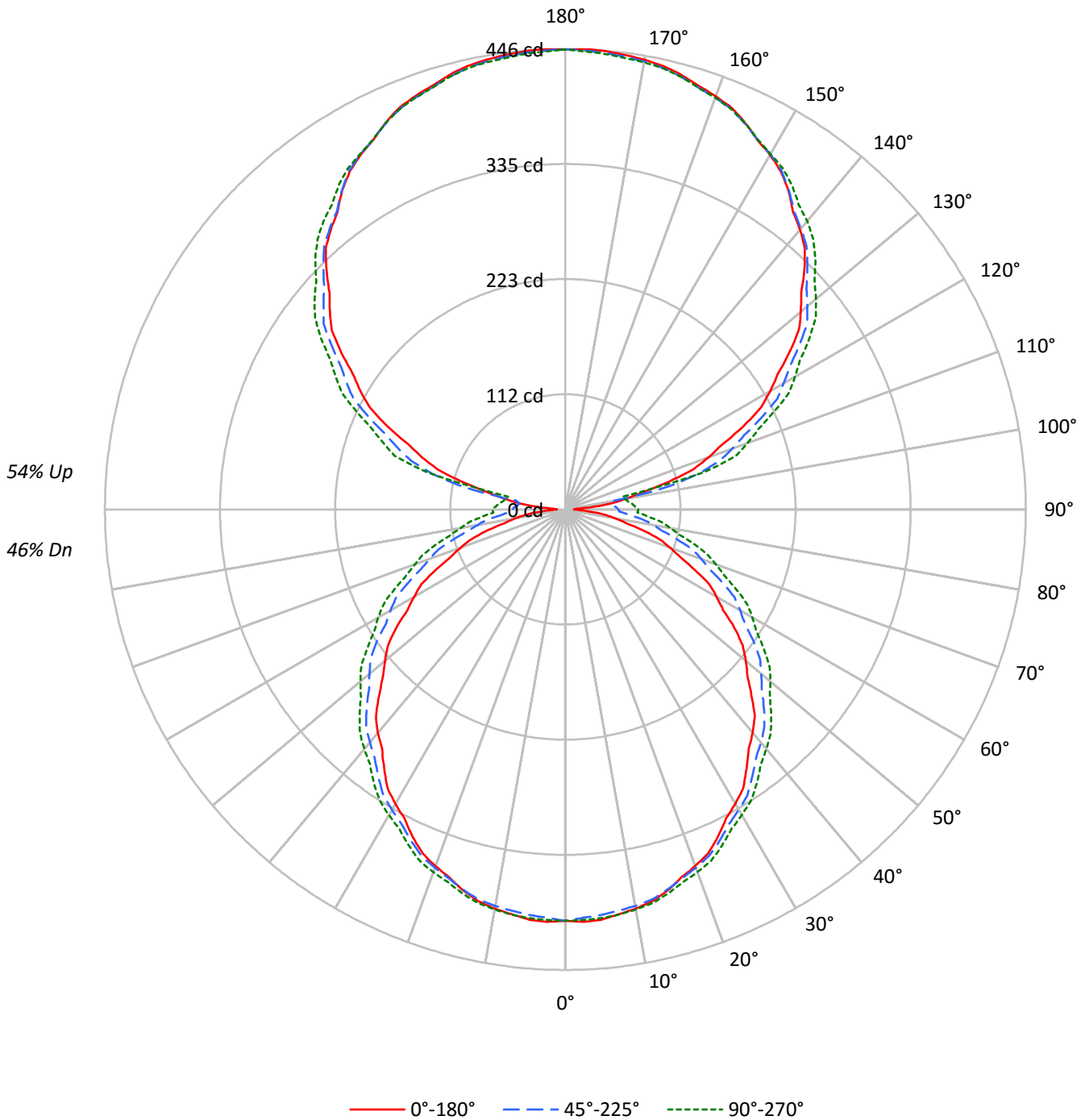
Lumens per Lamp: N/A  
Luminaire Lumens: 2737.0 lumens  
Efficiency: N/A  
Efficacy: 134.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 20.3  
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: P332493-830  
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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46				
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37				
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30				
3	79	69	62	55	72	64	57	51	53	48	44	43	40	36	34	31	29	25				
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21				
5	66	54	46	40	60	50	42	37	42	36	32	34	30	27	27	24	22	18				
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	25	21	19	16				
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14				
8	52	40	32	26	48	37	29	25	31	25	21	25	21	18	20	17	15	12				
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11				
10	45	33	26	21	41	31	24	20	26	21	17	22	17	15	17	14	12	10				

**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	1.4
10°-20°	108.1	3.9
20°-30°	163.4	6.0
30°-40°	197.8	7.2
40°-50°	209.1	7.6
50°-60°	196.8	7.2
60°-70°	163.2	6.0
70°-80°	114.7	4.2
80°-90°	66.1	2.4
90°-100°	53.7	2.0
100°-110°	125.6	4.6
110°-120°	204.9	7.5
120°-130°	246.6	9.0
130°-140°	257.0	9.4
140°-150°	236.9	8.7
150°-160°	190.3	7.0
160°-170°	122.7	4.5
170°-180°	42.3	1.5
0°-30°	309.3	11.3
0°-40°	507.0	18.5
0°-60°	912.9	33.4
0°-90°	1256.9	45.9
90°-120°	384.3	14.0
90°-150°	1124.8	41.1
90°-180°	1480.0	54.1
0°-180°	2737.0	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°	8	30	52	66	71	6
95°	24	28	46	60	65	28
105°	104	116	133	146	139	109
115°	190	195	209	219	222	187
125°	265	266	276	285	289	237
135°	327	327	332	339	343	252
145°	377	377	377	380	383	235
155°	413	413	412	413	412	190
165°	435	434	434	436	433	123
175°	445	444	444	446	443	42
180°	445	445	445	445	445	



TEST NUMBER: P332493-830

CATALOG NUMBER: SA4XXDIP-C350D365U830-4F0-1E-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°	13.4	17.6	21.9	26.0	30.3	34.6	39.0	43.5	48.0	52.4	55.4
90°	8.1	12.9	17.7	22.4	27.2	32.0	36.9	41.8	46.7	51.5	54.9
92.5°	10.9	14.6	18.2	21.8	25.4	29.7	34.5	39.4	44.2	49.1	52.3
95°	24.1	24.9	25.6	26.4	27.1	29.6	33.7	37.9	42.0	46.2	49.3
97.5°	44.2	48.5	53.0	57.3	61.7	61.8	57.6	53.3	49.1	44.9	47.5
100°	59.6	63.4	67.4	71.3	75.2	74.0	67.6	61.3	55.0	48.5	50.0
102.5°	77.1	80.4	83.6	86.8	90.1	92.9	95.4	97.8	100.3	102.7	91.8
105°	104.2	106.7	109.1	111.6	114.0	117.3	121.3	125.3	129.3	133.4	136.5
107.5°	130.3	132.1	133.9	135.8	137.6	140.5	144.5	148.5	152.5	156.5	159.2
110°	147.5	149.1	150.7	152.3	153.9	156.7	160.6	164.5	168.4	172.3	174.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	164.2	165.8	167.4	169.1	170.7	173.2	176.8	180.3	183.8	187.4	189.5
115°	189.9	191.0	192.1	193.2	194.4	196.4	199.5	202.6	205.8	208.9	211.1
117.5°	213.5	214.2	215.1	215.9	216.8	218.8	221.9	225.0	228.1	231.2	233.3
120°	229.0	229.7	230.3	230.8	231.5	233.2	235.9	238.7	241.6	244.3	246.5
122.5°	244.0	244.2	244.5	244.7	245.0	246.5	249.3	252.1	255.0	257.8	259.9
125°	264.9	265.1	265.3	265.5	265.7	267.0	269.3	271.6	274.0	276.4	278.4
127.5°	285.1	285.1	285.0	285.0	285.0	286.2	288.3	290.6	292.8	295.1	296.8
130°	297.8	297.7	297.7	297.7	297.7	298.6	300.4	302.2	304.1	305.9	307.6
132.5°	309.8	309.8	309.9	309.9	309.9	310.8	312.3	313.9	315.4	316.9	318.7
135°	327.3	327.3	327.2	327.2	327.1	327.5	328.5	329.5	330.5	331.5	333.2
137.5°	343.3	343.2	343.1	343.1	343.0	343.3	343.9	344.6	345.3	345.9	347.5
140°	353.6	353.7	353.7	353.8	353.8	354.0	354.2	354.5	354.8	355.0	356.5
142.5°	362.6	362.9	363.2	363.4	363.6	363.7	363.8	363.8	363.8	363.8	365.1
145°	376.8	377.0	377.1	377.2	377.4	377.4	377.4	377.4	377.4	377.4	378.1
147.5°	388.2	388.6	388.9	389.2	389.6	389.6	389.6	389.5	389.4	389.4	389.5
150°	396.5	396.7	396.9	397.1	397.3	397.4	397.3	397.2	397.1	397.1	397.1
152.5°	403.1	403.3	403.5	403.7	404.0	404.0	403.9	403.7	403.6	403.5	403.6
155°	412.7	412.8	412.8	412.9	413.0	412.9	412.7	412.5	412.3	412.1	412.4
157.5°	420.9	420.8	420.8	420.8	420.8	420.6	420.4	420.1	419.8	419.6	420.0
160°	425.7	425.5	425.3	425.1	424.8	424.7	424.6	424.5	424.4	424.3	424.8
162.5°	430.0	429.7	429.4	429.1	428.9	428.7	428.6	428.5	428.5	428.4	428.9
165°	435.4	435.0	434.6	434.2	433.9	433.7	433.7	433.7	433.7	433.7	434.3
167.5°	439.6	439.2	438.8	438.5	438.1	437.9	437.8	437.8	437.7	437.7	438.4
170°	442.1	441.6	441.1	440.7	440.3	440.1	440.2	440.3	440.3	440.4	440.9
172.5°	443.7	443.2	442.7	442.3	441.9	441.7	441.8	441.9	441.9	442.0	442.5
175°	445.4	444.9	444.5	444.0	443.6	443.4	443.5	443.6	443.7	443.7	444.4
177.5°	446.2	445.7	445.4	444.9	444.5	444.3	444.5	444.6	444.7	444.8	445.4
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4



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**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°	58.3	61.3	64.3	66.2	67.1	68.1	68.9	69.8
90°	58.2	61.5	64.8	66.9	67.9	68.8	69.7	70.7
92.5°	55.6	58.8	62.0	64.1	64.9	65.7	66.5	67.4
95°	52.4	55.5	58.6	60.7	61.6	62.6	63.5	64.6
97.5°	50.1	52.8	55.4	57.2	58.2	59.0	59.9	60.9
100°	51.4	52.8	54.2	55.3	56.1	56.8	57.6	58.4
102.5°	80.8	69.8	58.8	53.7	54.5	55.3	56.1	56.9
105°	139.7	142.8	146.0	146.6	144.7	142.9	141.0	139.1
107.5°	161.9	164.8	167.5	169.4	170.4	171.4	172.4	173.3
110°	177.2	179.6	182.0	183.8	184.7	185.8	186.8	187.8





TEST NUMBER: P332493-830

CATALOG NUMBER: SA4XXDIP-C350D365U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	191.7	193.9	196.0	197.7	198.7	199.8	200.9	201.9
115°	213.5	215.8	218.2	219.7	220.4	221.0	221.8	222.4
117.5°	235.3	237.3	239.3	240.7	241.5	242.2	243.0	243.8
120°	248.6	250.7	252.9	254.3	254.9	255.5	256.2	256.8
122.5°	261.9	264.0	266.1	267.4	268.0	268.5	269.1	269.7
125°	280.5	282.7	284.7	286.2	286.8	287.5	288.1	288.8
127.5°	298.6	300.3	302.1	303.2	303.9	304.4	305.1	305.7
130°	309.5	311.4	313.3	314.5	315.1	315.7	316.3	316.9
132.5°	320.5	322.3	324.0	325.2	325.7	326.3	326.8	327.3
135°	334.9	336.7	338.4	339.6	340.4	341.1	341.9	342.6
137.5°	349.1	350.7	352.4	353.4	353.8	354.3	354.8	355.2
140°	358.0	359.5	361.0	362.0	362.6	363.2	363.8	364.4
142.5°	366.5	367.8	369.0	369.9	370.3	370.8	371.2	371.6
145°	378.7	379.4	380.1	380.7	381.3	381.8	382.3	382.9
147.5°	389.6	389.7	389.9	390.1	390.6	391.0	391.3	391.7
150°	397.1	397.1	397.1	397.1	397.2	397.3	397.3	397.4
152.5°	403.7	403.8	404.0	404.0	403.9	403.9	403.9	403.8
155°	412.6	412.9	413.2	413.3	413.0	412.8	412.6	412.4
157.5°	420.4	420.8	421.1	421.1	420.8	420.4	420.0	419.6
160°	425.3	425.7	426.1	426.1	425.7	425.3	424.8	424.3
162.5°	429.2	429.7	430.2	430.1	429.6	429.1	428.6	428.1
165°	434.9	435.5	436.1	436.0	435.4	434.7	434.0	433.4
167.5°	439.0	439.7	440.3	440.3	439.5	438.8	438.0	437.3
170°	441.6	442.1	442.7	442.6	442.0	441.2	440.5	439.7
172.5°	443.2	443.7	444.3	444.2	443.5	442.6	441.9	441.0
175°	445.1	445.7	446.4	446.3	445.4	444.5	443.6	442.7
177.5°	445.8	446.3	446.8	446.6	445.9	445.2	444.5	443.7
180°	445.4	445.4	445.4	445.4	445.4	445.4	445.4	445.4

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