

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: P331243-830

Luminaire Tested: **SA2XXDIP-C290D330U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331243-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D330U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

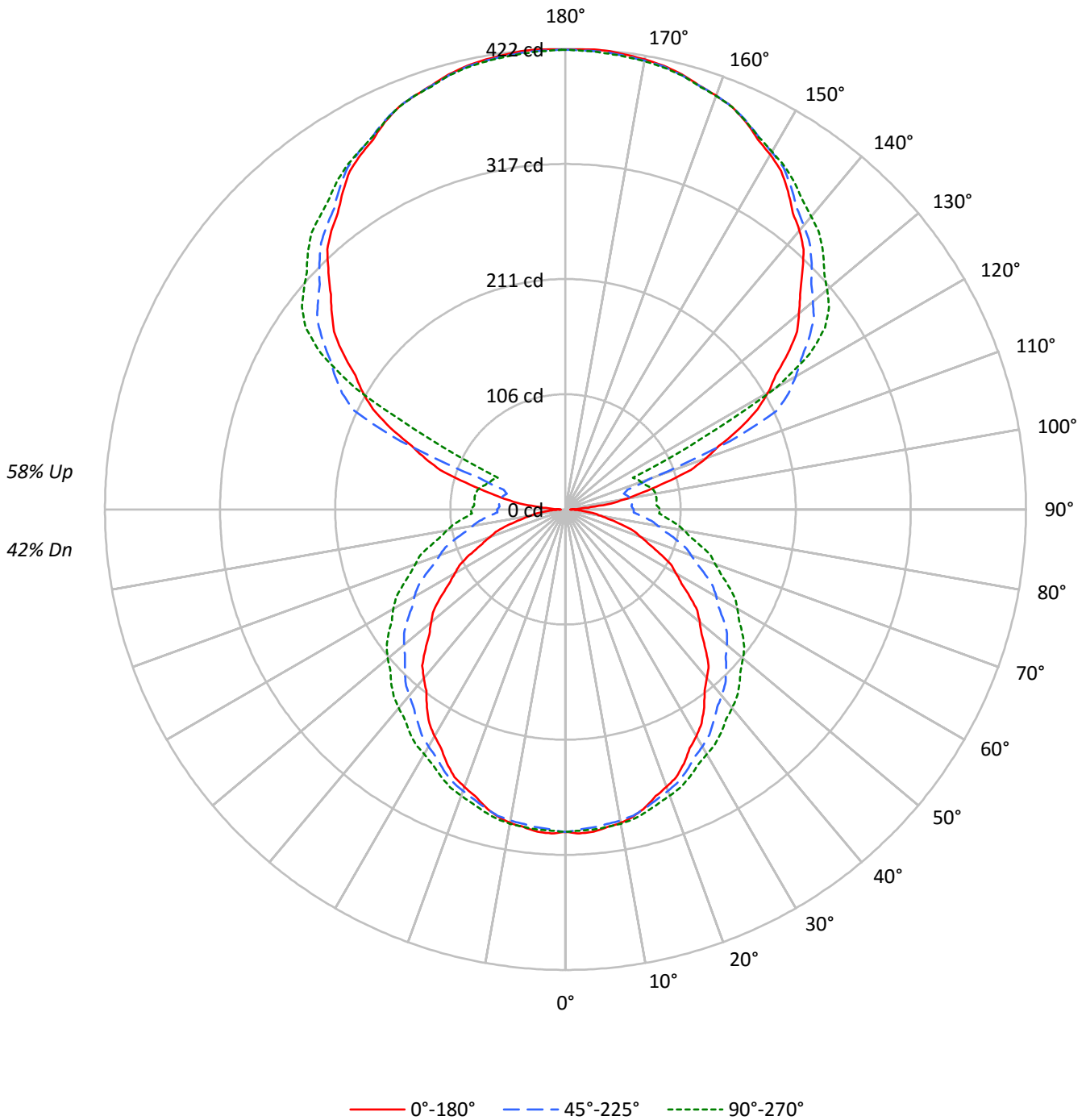
Lumens per Lamp: N/A
Luminaire Lumens: 2362.4 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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



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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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	42
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39	33
2	86	78	71	66	78	71	65	61	58	54	50	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	27	22
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22	19
5	65	53	45	39	59	49	41	36	40	34	30	32	28	25	25	22	19	16
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	25	46	35	28	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.0	1.2
10°-20°	80.3	3.4
20°-30°	121.6	5.1
30°-40°	148.2	6.3
40°-50°	159.4	6.7
50°-60°	154.8	6.6
60°-70°	135.2	5.7
70°-80°	104.1	4.4
80°-90°	70.9	3.0
90°-100°	62.2	2.6
100°-110°	86.6	3.7
110°-120°	160.9	6.8
120°-130°	240.3	10.2
130°-140°	247.2	10.5
140°-150°	225.7	9.6
150°-160°	180.7	7.6
160°-170°	116.4	4.9
170°-180°	40.1	1.7
0°-30°	229.9	9.7
0°-40°	378.1	16.0
0°-60°	692.3	29.3
0°-90°	1002.4	42.4
90°-120°	309.7	13.1
90°-150°	1022.8	43.3
90°-180°	1360.0	57.6
0°-180°	2362.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	33	63	81	87	4
95°	23	34	61	78	84	27
105°	95	112	55	73	80	101
115°	177	188	214	92	68	174
125°	249	253	272	285	290	222
135°	307	312	319	330	334	237
145°	356	356	360	365	366	222
155°	392	389	392	394	392	180
165°	413	411	412	414	412	117
175°	422	420	421	422	420	40
180°	421	421	421	421	421	



TEST NUMBER: P331243-830

CATALOG NUMBER: SA2XXDIP-C290D330U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.5	14.2	20.1	25.9	31.8	37.7	43.9	50.1	56.4	62.5	66.4
90°	4.6	10.8	17.2	23.4	29.6	36.1	42.7	49.4	56.0	62.6	66.7
92.5°	10.1	15.2	20.3	25.3	30.3	36.0	42.1	48.3	54.4	60.5	64.4
95°	23.3	25.4	27.7	30.0	32.1	36.4	42.6	48.7	55.0	61.2	65.0
97.5°	42.3	40.0	37.7	35.3	33.0	35.2	41.8	48.4	54.9	61.5	65.2
100°	56.9	51.2	45.4	39.7	33.9	34.3	40.7	47.2	53.7	60.2	64.3
102.5°	72.7	73.9	75.2	76.4	77.7	76.1	71.6	67.2	62.8	58.2	62.4
105°	94.8	99.5	104.3	109.1	114.0	109.6	96.0	82.5	69.0	55.4	59.5
107.5°	120.5	124.3	128.2	132.1	135.8	129.0	111.6	94.2	76.8	59.4	61.7
110°	136.8	140.1	143.4	146.7	150.1	144.2	129.3	114.4	99.5	84.5	80.9



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CATALOG NUMBER: SA2XXDIP-C290D330U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.3	155.1	158.1	160.9	163.7	164.9	164.6	164.2	163.8	163.3	141.8
115°	176.9	179.2	181.3	183.5	185.8	189.8	195.8	201.8	207.7	213.8	185.2
117.5°	198.5	200.5	202.5	204.4	206.4	210.0	215.1	220.2	225.4	230.5	225.6
120°	214.6	216.0	217.4	218.8	220.2	223.4	228.5	233.5	238.5	243.6	246.9
122.5°	228.3	229.5	230.7	232.0	233.2	236.2	241.1	246.0	250.9	255.8	258.9
125°	248.6	249.5	250.3	251.3	252.1	254.8	259.1	263.4	267.8	272.1	275.1
127.5°	267.5	268.3	269.2	270.1	271.0	273.1	276.5	279.9	283.3	286.8	289.8
130°	279.4	280.4	281.3	282.4	283.3	285.2	287.9	290.7	293.4	296.1	299.3
132.5°	291.6	292.4	293.2	294.1	294.9	296.4	298.7	301.0	303.3	305.6	308.4
135°	307.0	308.1	309.2	310.3	311.3	312.6	314.2	315.8	317.4	318.9	321.6
137.5°	323.0	323.8	324.5	325.3	326.0	326.9	328.0	329.1	330.3	331.4	333.8
140°	333.6	333.9	334.4	334.9	335.3	336.0	337.0	337.9	338.8	339.8	341.9
142.5°	342.3	342.7	343.1	343.5	343.8	344.5	345.4	346.3	347.1	348.1	349.9
145°	355.6	355.6	355.5	355.4	355.3	355.9	357.0	358.3	359.4	360.5	361.6
147.5°	367.7	367.4	367.1	366.8	366.6	367.0	368.2	369.4	370.5	371.6	372.0
150°	375.4	374.9	374.5	374.0	373.5	373.9	374.9	376.1	377.1	378.2	378.6
152.5°	382.0	381.5	381.0	380.4	379.9	380.1	381.2	382.2	383.2	384.3	384.7
155°	391.6	391.0	390.4	389.7	389.2	389.3	390.1	390.9	391.7	392.5	392.9
157.5°	399.1	398.6	398.0	397.6	397.0	397.1	397.7	398.2	398.8	399.4	399.8
160°	403.5	403.1	402.7	402.3	401.9	401.9	402.3	402.7	403.1	403.5	403.9
162.5°	407.4	407.0	406.6	406.1	405.8	405.8	406.0	406.4	406.8	407.2	407.6
165°	412.6	412.3	411.8	411.4	411.0	410.9	411.1	411.3	411.5	411.7	412.2
167.5°	416.5	416.1	415.8	415.3	414.9	414.8	415.0	415.2	415.4	415.6	416.0
170°	418.8	418.3	417.9	417.5	417.1	417.0	417.1	417.3	417.4	417.5	418.0
172.5°	420.2	419.8	419.3	419.0	418.6	418.4	418.6	418.7	418.9	419.0	419.4
175°	422.1	421.6	421.1	420.7	420.2	420.0	420.2	420.3	420.5	420.6	421.0
177.5°	422.4	422.0	421.6	421.2	420.8	420.8	420.8	420.8	420.8	420.9	421.3
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1



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CATALOG NUMBER: SA2XXDIP-C290D330U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	70.4	74.4	78.3	81.0	82.2	83.4	84.6	85.9
90°	70.9	75.0	79.2	81.9	83.2	84.5	85.8	87.0
92.5°	68.3	72.2	76.2	78.7	79.9	81.2	82.4	83.6
95°	69.0	73.0	76.9	79.5	80.5	81.6	82.7	83.8
97.5°	69.1	72.9	76.6	79.2	80.3	81.5	82.8	84.0
100°	68.3	72.4	76.4	79.1	80.2	81.4	82.6	83.8
102.5°	66.5	70.7	74.8	77.6	78.8	80.0	81.2	82.5
105°	63.5	67.7	71.7	74.4	75.7	77.0	78.3	79.6
107.5°	64.2	66.6	69.1	71.0	72.3	73.6	74.9	76.3
110°	77.1	73.4	69.7	68.4	69.7	71.1	72.4	73.7



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CATALOG NUMBER: SA2XXDIP-C290D330U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	120.1	98.4	76.7	66.5	67.8	69.1	70.3	71.6
115°	156.7	128.2	99.7	83.5	79.7	75.9	72.1	68.2
117.5°	220.9	216.1	211.4	201.4	186.4	171.4	156.3	141.3
120°	250.4	253.9	257.4	255.1	247.0	238.9	230.8	222.7
122.5°	262.0	265.0	268.2	269.2	268.3	267.5	266.6	265.7
125°	278.1	281.2	284.3	286.3	287.4	288.4	289.5	290.5
127.5°	292.8	296.0	299.0	301.0	301.8	302.7	303.6	304.4
130°	302.3	305.3	308.3	310.2	310.9	311.5	312.3	312.9
132.5°	311.3	314.1	317.0	318.8	319.4	320.1	320.8	321.5
135°	324.2	327.0	329.6	331.3	331.9	332.5	333.1	333.8
137.5°	336.2	338.6	341.0	342.4	342.8	343.3	343.7	344.1
140°	344.0	346.1	348.3	349.5	349.7	349.9	350.2	350.3
142.5°	351.7	353.4	355.2	356.1	356.3	356.5	356.6	356.8
145°	362.6	363.6	364.7	365.3	365.4	365.6	365.7	365.8
147.5°	372.5	372.9	373.3	373.5	373.4	373.4	373.3	373.2
150°	379.0	379.4	379.8	379.8	379.6	379.2	378.8	378.5
152.5°	385.1	385.5	385.9	385.9	385.4	385.0	384.6	384.1
155°	393.3	393.7	394.2	394.1	393.5	393.0	392.5	391.9
157.5°	400.3	400.8	401.1	401.1	400.6	400.1	399.5	399.1
160°	404.4	404.7	405.1	405.1	404.6	404.2	403.7	403.2
162.5°	408.0	408.5	409.0	409.0	408.3	407.7	407.2	406.6
165°	412.6	413.1	413.6	413.6	413.1	412.6	412.2	411.7
167.5°	416.5	417.0	417.5	417.4	416.8	416.1	415.6	414.9
170°	418.5	419.0	419.4	419.3	418.8	418.1	417.5	416.9
172.5°	419.9	420.4	420.8	420.8	420.2	419.6	419.0	418.4
175°	421.5	422.0	422.4	422.4	421.7	421.0	420.3	419.6
177.5°	421.7	422.1	422.4	422.4	421.9	421.4	420.9	420.5
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1

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