

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: P331243-840

Luminaire Tested: **SA2XXDIP-C290D330U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331243-840
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-C290D330U840-4F0-1E-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

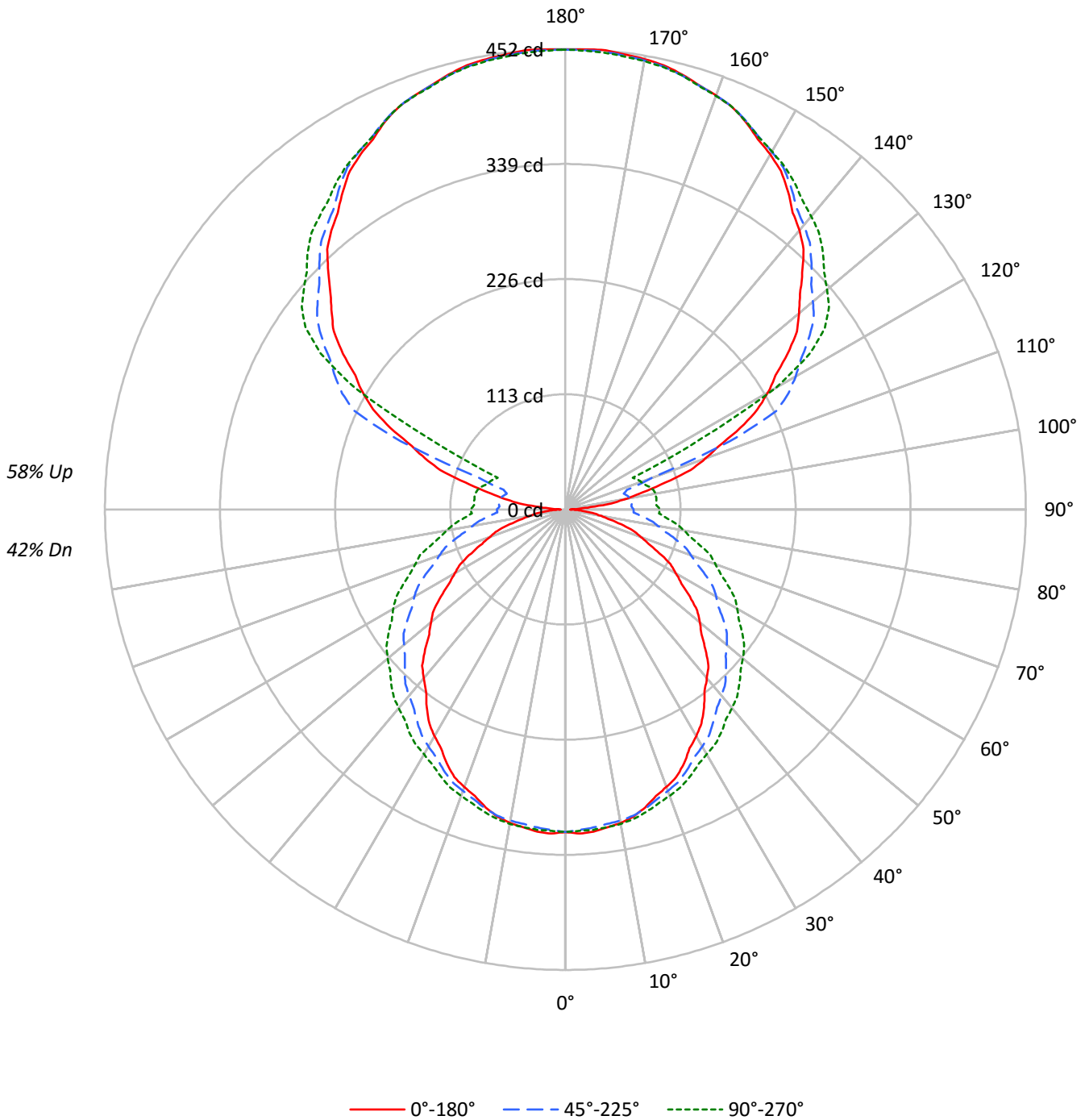
Lumens per Lamp: N/A
Luminaire Lumens: 2531.1 lumens
Efficiency: N/A
Efficacy: 124.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.0	1.2
10°-20°	86.0	3.4
20°-30°	130.3	5.1
30°-40°	158.8	6.3
40°-50°	170.8	6.7
50°-60°	165.9	6.6
60°-70°	144.8	5.7
70°-80°	111.5	4.4
80°-90°	75.9	3.0
90°-100°	66.6	2.6
100°-110°	92.8	3.7
110°-120°	172.4	6.8
120°-130°	257.4	10.2
130°-140°	264.9	10.5
140°-150°	241.8	9.6
150°-160°	193.6	7.6
160°-170°	124.7	4.9
170°-180°	42.9	1.7
0°-30°	246.3	9.7
0°-40°	405.1	16.0
0°-60°	741.7	29.3
0°-90°	1074.0	42.4
90°-120°	331.8	13.1
90°-150°	1095.9	43.3
90°-180°	1457.0	57.6
0°-180°	2531.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	5	35	67	86	93	4
95°	25	37	66	84	90	29
105°	102	120	59	78	85	109
115°	190	201	229	98	73	186
125°	266	272	292	306	311	238
135°	329	334	342	354	358	254
145°	381	381	386	391	392	238
155°	420	417	420	422	420	193
165°	442	440	441	443	441	125
175°	452	450	451	453	450	43
180°	451	451	451	451	451	



TEST NUMBER: P331243-840

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.1	15.2	21.5	27.8	34.0	40.4	47.1	53.7	60.4	67.0	71.2
90°	4.9	11.6	18.4	25.0	31.7	38.7	45.7	52.9	60.0	67.1	71.5
92.5°	10.8	16.3	21.7	27.1	32.5	38.6	45.1	51.7	58.3	64.8	69.0
95°	24.9	27.3	29.7	32.1	34.4	39.0	45.6	52.2	58.9	65.5	69.7
97.5°	45.3	42.8	40.4	37.9	35.3	37.7	44.7	51.8	58.8	65.8	69.9
100°	61.0	54.8	48.7	42.5	36.4	36.8	43.6	50.6	57.6	64.5	68.9
102.5°	77.9	79.2	80.6	81.9	83.2	81.5	76.7	72.0	67.3	62.4	66.9
105°	101.6	106.6	111.8	116.9	122.1	117.4	102.9	88.4	73.9	59.4	63.7
107.5°	129.1	133.2	137.3	141.5	145.5	138.3	119.6	100.9	82.3	63.6	66.1
110°	146.5	150.1	153.6	157.1	160.8	154.5	138.6	122.6	106.6	90.6	86.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	163.2	166.2	169.4	172.4	175.4	176.7	176.3	175.9	175.5	175.0	151.9
115°	189.6	192.0	194.3	196.6	199.0	203.4	209.7	216.2	222.6	229.0	198.4
117.5°	212.7	214.8	216.9	219.0	221.2	225.0	230.5	235.9	241.5	246.9	241.8
120°	229.9	231.5	233.0	234.4	235.9	239.3	244.8	250.1	255.5	260.9	264.6
122.5°	244.6	245.9	247.2	248.5	249.8	253.1	258.3	263.6	268.8	274.1	277.4
125°	266.4	267.3	268.2	269.2	270.1	273.0	277.6	282.3	286.9	291.5	294.8
127.5°	286.6	287.5	288.4	289.4	290.3	292.7	296.3	299.9	303.6	307.3	310.5
130°	299.3	300.4	301.4	302.6	303.6	305.6	308.5	311.4	314.4	317.3	320.6
132.5°	312.5	313.3	314.2	315.1	316.0	317.6	320.0	322.6	325.0	327.4	330.4
135°	328.9	330.1	331.2	332.4	333.6	335.0	336.7	338.3	340.0	341.6	344.6
137.5°	346.1	346.9	347.7	348.5	349.3	350.2	351.4	352.6	353.9	355.1	357.6
140°	357.4	357.8	358.3	358.8	359.2	360.0	361.0	362.0	363.0	364.1	366.3
142.5°	366.8	367.2	367.6	368.0	368.4	369.1	370.1	371.0	371.9	372.9	374.9
145°	381.0	381.0	380.9	380.8	380.7	381.3	382.5	383.8	385.1	386.3	387.4
147.5°	393.9	393.6	393.3	393.0	392.8	393.2	394.5	395.8	397.0	398.2	398.6
150°	402.2	401.7	401.2	400.7	400.2	400.6	401.7	402.9	404.0	405.3	405.7
152.5°	409.3	408.8	408.2	407.6	407.1	407.3	408.4	409.5	410.6	411.7	412.1
155°	419.6	418.9	418.3	417.6	417.0	417.1	418.0	418.8	419.7	420.5	421.0
157.5°	427.6	427.1	426.5	426.0	425.4	425.5	426.1	426.7	427.3	427.9	428.4
160°	432.3	431.9	431.4	431.0	430.6	430.6	431.0	431.4	431.9	432.3	432.7
162.5°	436.5	436.1	435.7	435.2	434.7	434.7	435.0	435.5	435.9	436.3	436.8
165°	442.1	441.7	441.2	440.8	440.4	440.3	440.5	440.7	440.9	441.1	441.6
167.5°	446.3	445.9	445.5	444.9	444.5	444.4	444.6	444.8	445.0	445.2	445.8
170°	448.7	448.2	447.8	447.4	446.9	446.8	446.9	447.1	447.2	447.4	447.9
172.5°	450.2	449.8	449.3	448.9	448.5	448.3	448.5	448.6	448.8	448.9	449.4
175°	452.2	451.7	451.2	450.7	450.2	450.0	450.2	450.3	450.5	450.6	451.1
177.5°	452.5	452.1	451.7	451.3	450.9	450.8	450.8	450.9	450.9	451.0	451.4
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	75.4	79.7	83.9	86.7	88.1	89.4	90.7	92.0
90°	75.9	80.4	84.8	87.8	89.2	90.5	91.9	93.2
92.5°	73.2	77.4	81.6	84.3	85.6	86.9	88.3	89.6
95°	73.9	78.2	82.4	85.1	86.2	87.5	88.6	89.8
97.5°	74.0	78.1	82.1	84.8	86.0	87.4	88.7	90.0
100°	73.2	77.6	81.9	84.7	85.9	87.3	88.5	89.8
102.5°	71.3	75.7	80.2	83.1	84.4	85.7	87.1	88.4
105°	68.1	72.5	76.9	79.7	81.1	82.5	83.9	85.3
107.5°	68.8	71.4	74.0	76.0	77.5	78.9	80.3	81.7
110°	82.6	78.7	74.6	73.3	74.7	76.1	77.6	79.0



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CATALOG NUMBER: SA2XXDIP-C290D330U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	128.7	105.4	82.2	71.3	72.6	74.0	75.3	76.7
115°	167.9	137.3	106.8	89.5	85.4	81.3	77.3	73.1
117.5°	236.7	231.6	226.5	215.8	199.8	183.6	167.4	151.4
120°	268.3	272.1	275.8	273.4	264.7	256.0	247.3	238.6
122.5°	280.7	284.0	287.3	288.4	287.5	286.6	285.6	284.7
125°	298.0	301.2	304.6	306.7	307.9	309.0	310.1	311.2
127.5°	313.8	317.1	320.3	322.4	323.4	324.4	325.3	326.2
130°	323.9	327.1	330.3	332.3	333.1	333.8	334.6	335.3
132.5°	333.6	336.6	339.6	341.5	342.2	343.0	343.8	344.5
135°	347.4	350.3	353.1	355.0	355.6	356.3	356.9	357.6
137.5°	360.2	362.7	365.4	366.9	367.3	367.8	368.2	368.7
140°	368.6	370.8	373.1	374.5	374.7	374.9	375.2	375.4
142.5°	376.8	378.6	380.5	381.5	381.7	381.9	382.0	382.2
145°	388.5	389.6	390.7	391.4	391.5	391.7	391.8	391.9
147.5°	399.1	399.5	400.0	400.2	400.1	400.1	400.0	399.9
150°	406.1	406.5	407.0	407.0	406.7	406.3	405.9	405.6
152.5°	412.6	413.0	413.4	413.4	412.9	412.5	412.0	411.5
155°	421.4	421.8	422.3	422.2	421.6	421.1	420.5	419.9
157.5°	428.9	429.4	429.8	429.8	429.2	428.7	428.1	427.6
160°	433.2	433.6	434.0	434.0	433.5	433.0	432.5	432.0
162.5°	437.2	437.7	438.2	438.2	437.5	436.9	436.3	435.7
165°	442.1	442.6	443.1	443.1	442.6	442.1	441.6	441.1
167.5°	446.3	446.8	447.3	447.2	446.6	445.9	445.2	444.5
170°	448.4	448.9	449.4	449.3	448.7	448.0	447.4	446.7
172.5°	449.9	450.4	450.9	450.9	450.2	449.6	448.9	448.3
175°	451.6	452.1	452.6	452.5	451.8	451.1	450.3	449.6
177.5°	451.8	452.2	452.6	452.5	452.0	451.5	451.0	450.5
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2

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