

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: P331261-840

Luminaire Tested: **SA2XXDIP-C290D725U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331261-840  
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-C290D725U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

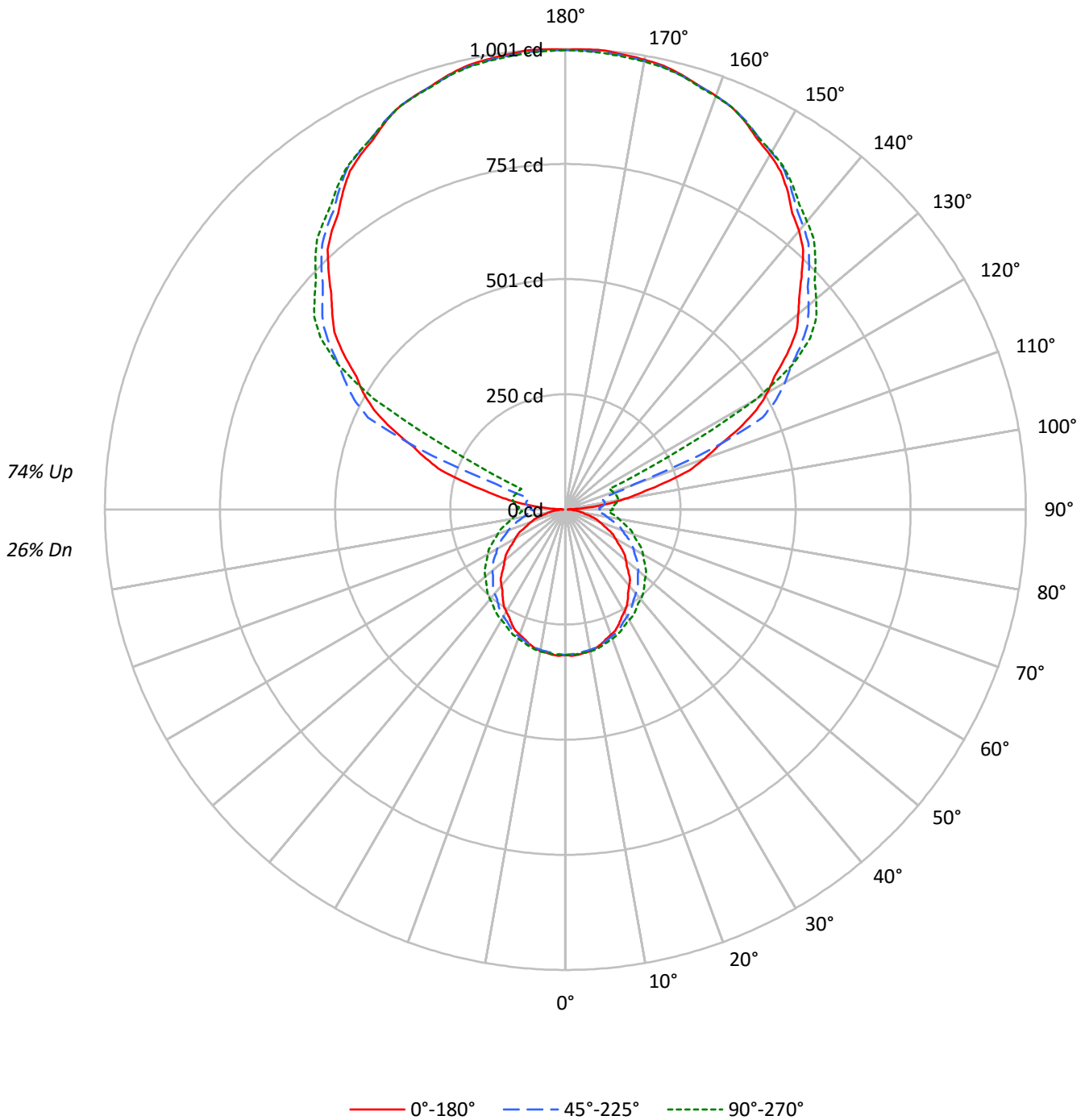
Lumens per Lamp: N/A  
Luminaire Lumens: 4135.8 lumens  
Efficiency: N/A  
Efficacy: 132.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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



TEST NUMBER: P331261-840  
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### Luminous Intensity Polar Plot





TEST NUMBER: P331261-840

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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	87	83	79	81	78	74	71	60	58	56	44	42	41	29	28	27	20
2	83	76	69	64	74	67	62	58	52	48	45	38	36	34	25	23	22	16
3	76	66	59	53	67	59	53	48	46	41	38	33	30	28	22	20	19	13
4	69	58	50	44	61	52	45	40	40	36	32	29	26	24	19	17	16	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	14	10
6	58	46	38	32	51	41	34	29	32	27	23	24	20	18	16	13	12	8
7	53	41	34	28	47	37	30	25	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	14	13	11	9	7
9	46	34	27	22	41	30	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	17	22	17	14	16	13	11	11	9	7	5

**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	0.7
10°-20°	86.0	2.1
20°-30°	130.3	3.2
30°-40°	158.8	3.8
40°-50°	170.8	4.1
50°-60°	165.9	4.0
60°-70°	144.8	3.5
70°-80°	111.5	2.7
80°-90°	77.3	1.9
90°-100°	84.9	2.1
100°-110°	159.8	3.9
110°-120°	351.3	8.5
120°-130°	552.7	13.4
130°-140°	578.9	14.0
140°-150°	533.7	12.9
150°-160°	428.3	10.4
160°-170°	276.0	6.7
170°-180°	95.0	2.3
0°-30°	246.3	6.0
0°-40°	405.1	9.8
0°-60°	741.7	17.9
0°-90°	1075.3	26.0
90°-120°	595.9	14.4
90°-150°	2261.2	54.7
90°-180°	3060.0	74.0
0°-180°	4135.8	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	40	75	96	104	5
95°	51	50	81	101	107	60
105°	222	245	84	107	115	237
115°	417	436	473	168	106	411
125°	588	599	626	643	650	524
135°	727	739	750	766	769	562
145°	843	843	854	862	861	527
155°	928	923	930	934	929	428
165°	978	974	976	980	976	276
175°	1000	996	997	1001	995	95
180°	998	998	998	998	998	



TEST NUMBER: P331261-840

CATALOG NUMBER: SA2XXDIP-C290D725U840-4F0-1E-UDD-D

**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	15.6	22.0	28.4	34.8	41.5	48.3	55.0	61.8	68.6	72.9
90°	5.4	13.0	20.7	28.4	36.1	43.7	51.6	59.4	67.2	75.0	79.9
92.5°	18.8	24.1	29.5	34.8	40.2	46.4	53.2	60.2	67.1	74.0	78.5
95°	50.6	50.1	49.6	49.1	48.6	52.0	59.2	66.4	73.7	80.9	85.6
97.5°	96.4	85.7	75.0	64.4	53.7	52.6	61.1	69.6	78.1	86.5	90.9
100°	131.1	112.9	94.6	76.4	58.2	53.3	61.7	70.2	78.6	87.1	92.1
102.5°	168.8	167.6	166.4	165.2	164.0	154.8	137.4	120.2	102.9	85.6	91.0
105°	221.9	229.6	237.4	245.2	253.0	237.6	199.0	160.6	122.1	83.5	88.9
107.5°	283.0	289.1	295.4	301.6	307.9	287.3	239.8	192.4	144.8	97.4	99.0
110°	321.8	327.3	332.6	338.1	343.5	325.5	284.1	242.7	201.3	159.9	147.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	358.8	363.6	368.2	372.9	377.6	376.6	369.9	363.2	356.5	349.8	294.5
115°	417.2	421.0	425.0	428.8	432.6	438.9	447.5	456.1	464.6	473.2	401.9
117.5°	468.9	472.7	476.5	480.3	484.0	489.5	496.4	503.4	510.5	517.5	502.5
120°	507.1	509.9	512.7	515.5	518.3	523.2	530.2	537.1	544.1	551.1	555.8
122.5°	539.4	542.1	544.8	547.5	550.2	555.0	562.0	569.1	576.0	583.0	586.9
125°	588.2	590.3	592.4	594.5	596.5	600.8	607.1	613.4	619.8	626.0	629.9
127.5°	632.9	635.1	637.3	639.4	641.7	645.3	650.2	655.1	659.9	664.9	669.0
130°	661.2	663.7	666.1	668.6	671.1	674.2	678.1	682.1	686.0	689.8	694.1
132.5°	690.0	692.2	694.3	696.3	698.4	701.1	704.6	708.0	711.4	714.8	718.7
135°	727.2	729.7	732.4	734.9	737.5	739.9	742.5	744.9	747.4	749.8	753.6
137.5°	765.2	767.0	768.7	770.5	772.2	774.3	776.3	778.4	780.5	782.5	786.0
140°	790.0	791.2	792.4	793.6	794.8	796.4	798.3	800.3	802.2	804.3	807.3
142.5°	810.8	811.9	812.9	814.0	815.1	816.6	818.7	820.7	822.8	824.9	827.5
145°	843.0	842.8	842.7	842.5	842.4	843.6	846.4	849.1	851.8	854.5	856.4
147.5°	871.5	870.9	870.3	869.7	869.1	870.1	872.8	875.5	878.2	880.9	881.8
150°	890.0	888.9	887.8	886.7	885.4	886.3	888.8	891.3	893.9	896.5	897.5
152.5°	905.5	904.3	903.1	901.8	900.6	901.2	903.6	906.1	908.5	910.9	911.9
155°	928.3	926.9	925.3	923.9	922.5	922.7	924.6	926.6	928.5	930.4	931.4
157.5°	946.0	944.8	943.6	942.4	941.2	941.2	942.6	943.9	945.2	946.6	947.8
160°	956.4	955.4	954.5	953.5	952.6	952.6	953.5	954.5	955.4	956.4	957.5
162.5°	965.7	964.7	963.8	962.8	961.8	961.8	962.6	963.4	964.3	965.1	966.2
165°	978.2	977.1	976.2	975.2	974.2	974.0	974.5	975.0	975.4	975.9	977.0
167.5°	987.3	986.4	985.4	984.5	983.5	983.2	983.7	984.1	984.6	985.0	986.1
170°	992.6	991.6	990.7	989.7	988.8	988.4	988.8	989.1	989.4	989.7	990.8
172.5°	996.0	995.0	994.1	993.1	992.2	991.9	992.2	992.5	992.8	993.1	994.3
175°	1000.5	999.4	998.3	997.1	996.0	995.6	995.9	996.2	996.5	996.9	998.0
177.5°	1001.3	1000.4	999.5	998.6	997.6	997.2	997.3	997.5	997.6	997.7	998.7
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4



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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°	77.3	81.5	85.8	88.7	90.1	91.5	92.8	94.2
90°	84.7	89.7	94.5	97.8	99.3	100.8	102.4	103.9
92.5°	82.8	87.3	91.7	94.6	96.0	97.5	98.9	100.3
95°	90.3	94.9	99.7	102.5	103.6	104.6	105.7	106.7
97.5°	95.3	99.8	104.2	107.0	108.5	109.9	111.3	112.7
100°	97.1	102.2	107.2	110.5	112.0	113.4	114.8	116.3
102.5°	96.3	101.7	107.0	110.6	112.1	113.7	115.2	116.8
105°	94.2	99.5	104.8	108.4	110.2	111.9	113.7	115.4
107.5°	100.7	102.3	103.9	105.6	107.3	109.2	110.9	112.6
110°	134.3	121.5	108.8	103.2	105.0	106.7	108.6	110.3





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CATALOG NUMBER: SA2XXDIP-C290D725U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	239.1	183.9	128.6	101.8	103.4	105.0	106.6	108.3
115°	330.7	259.4	188.1	147.3	136.8	126.4	116.0	105.5
117.5°	487.6	472.5	457.6	431.6	394.7	357.8	320.8	283.9
120°	560.7	565.4	570.2	562.3	541.8	521.2	500.7	480.1
122.5°	590.9	594.7	598.6	599.1	595.8	592.5	589.3	586.0
125°	633.8	637.6	641.6	644.2	645.6	646.9	648.3	649.7
127.5°	673.3	677.4	681.6	684.2	685.1	686.1	687.1	688.1
130°	698.3	702.5	706.7	709.1	709.8	710.4	711.1	711.8
132.5°	722.6	726.4	730.3	732.6	733.3	733.9	734.6	735.2
135°	757.3	761.0	764.8	766.9	767.4	767.9	768.4	768.9
137.5°	789.5	792.9	796.4	798.2	798.3	798.5	798.6	798.7
140°	810.4	813.4	816.5	818.0	817.8	817.6	817.4	817.2
142.5°	830.1	832.7	835.4	836.6	836.3	836.0	835.7	835.5
145°	858.1	859.8	861.5	862.2	861.9	861.6	861.4	861.1
147.5°	882.7	883.6	884.5	884.7	884.3	883.9	883.5	883.0
150°	898.4	899.4	900.3	900.4	899.6	898.8	898.0	897.2
152.5°	912.8	913.8	914.8	914.7	913.7	912.6	911.6	910.5
155°	932.4	933.3	934.3	934.1	932.8	931.6	930.3	929.0
157.5°	948.8	949.9	951.0	950.9	949.7	948.4	947.2	945.9
160°	958.4	959.4	960.3	960.2	959.1	958.0	956.8	955.7
162.5°	967.2	968.4	969.5	969.4	968.0	966.5	965.2	963.8
165°	978.2	979.4	980.5	980.5	979.4	978.2	977.0	975.9
167.5°	987.3	988.5	989.6	989.4	988.0	986.5	985.0	983.6
170°	991.9	993.0	994.2	994.0	992.6	991.1	989.7	988.3
172.5°	995.4	996.5	997.6	997.4	996.0	994.6	993.1	991.7
175°	999.2	1000.3	1001.4	1001.2	999.6	997.9	996.3	994.7
177.5°	999.6	1000.5	1001.4	1001.3	1000.1	999.0	997.7	996.6
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4

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