

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: P331473-927

Luminaire Tested: **S122DIW-S290D710U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331473-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D710U927-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3195.2 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

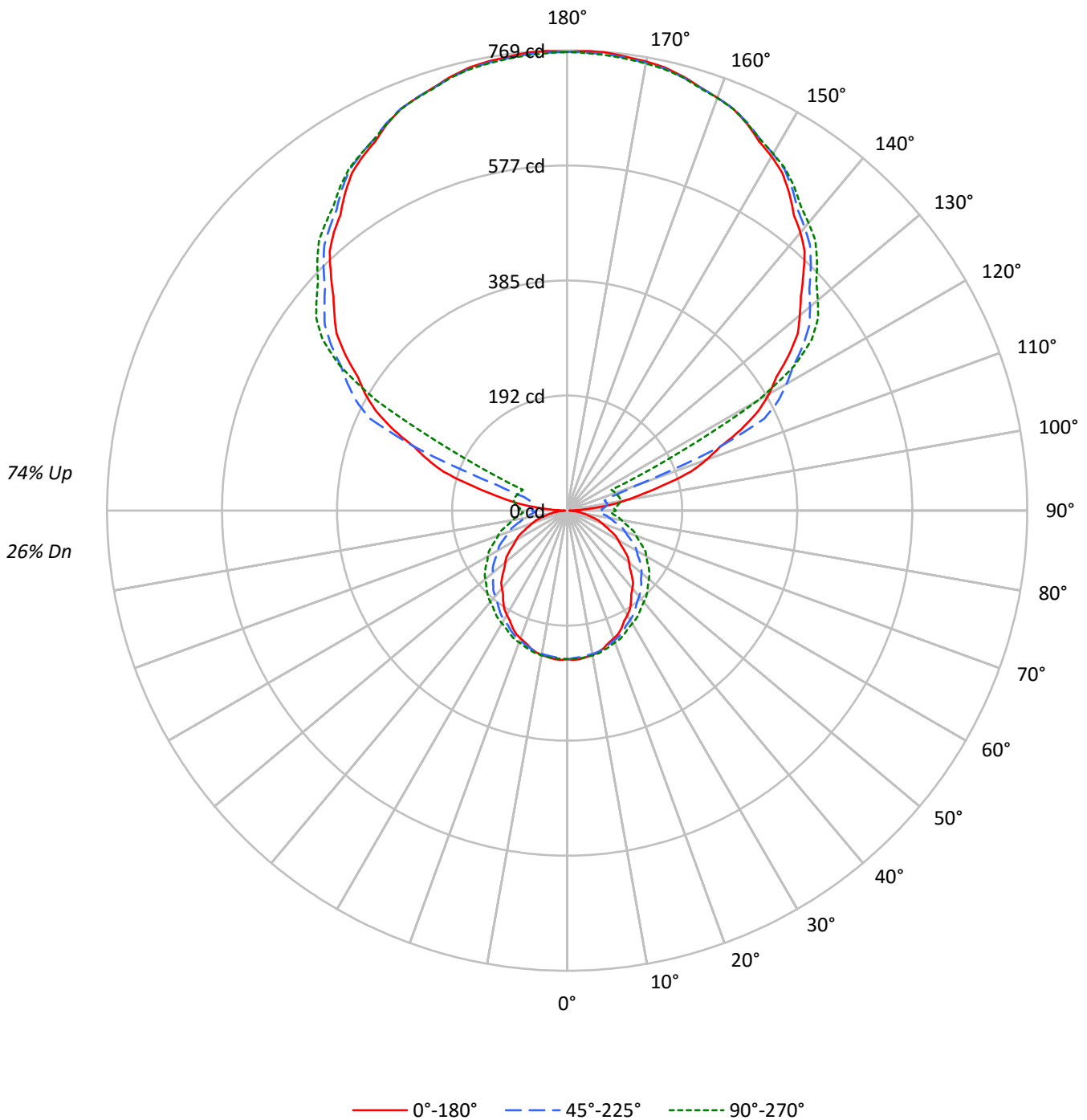
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331473-927

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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	92	87	83	79	82	78	74	71	60	58	56	44	43	41	29	28	27	21
2	83	76	69	64	74	67	62	58	52	49	45	38	36	34	25	24	22	17
3	76	66	59	53	67	59	53	48	46	41	38	33	31	28	22	20	19	14
4	69	58	50	44	61	52	45	40	40	36	32	30	26	24	19	18	16	12
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	14	12	9
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	8
8	49	37	30	25	44	34	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	18	22	17	14	16	13	11	11	9	8	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	0.7
10°-20°	67.5	2.1
20°-30°	102.2	3.2
30°-40°	124.5	3.9
40°-50°	134.0	4.2
50°-60°	130.1	4.1
60°-70°	113.6	3.6
70°-80°	87.5	2.7
80°-90°	60.6	1.9
90°-100°	66.0	2.1
100°-110°	123.3	3.9
110°-120°	270.1	8.5
120°-130°	424.6	13.3
130°-140°	444.5	13.9
140°-150°	409.7	12.8
150°-160°	328.8	10.3
160°-170°	211.9	6.6
170°-180°	72.9	2.3
0°-30°	193.2	6.0
0°-40°	317.8	9.9
0°-60°	581.9	18.2
0°-90°	843.5	26.4
90°-120°	459.4	14.4
90°-150°	1738.2	54.4
90°-180°	2352.0	73.6
0°-180°	3195.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	4	31	59	75	81	4
95°	39	39	63	79	83	46
105°	170	189	65	83	90	182
115°	320	335	364	129	82	315
125°	452	460	481	494	499	403
135°	558	567	576	588	591	431
145°	647	647	656	662	661	405
155°	713	708	714	717	713	328
165°	751	748	749	753	749	212
175°	768	764	765	769	764	73
180°	766	766	766	766	766	



TEST NUMBER: P331473-927

CATALOG NUMBER: S122DIW-S290D710U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.1	12.2	17.3	22.3	27.3	32.5	37.8	43.1	48.4	53.8	57.1
90°	4.1	10.1	16.2	22.1	28.1	34.1	40.2	46.4	52.5	58.6	62.4
92.5°	14.5	18.7	22.9	27.1	31.3	36.1	41.5	47.0	52.4	57.8	61.2
95°	38.9	38.6	38.3	38.0	37.7	40.4	46.0	51.7	57.4	63.0	66.7
97.5°	74.1	65.9	57.8	49.7	41.6	40.8	47.5	54.0	60.6	67.3	70.7
100°	100.7	86.7	72.8	58.9	45.0	41.3	47.8	54.4	61.0	67.6	71.5
102.5°	129.7	128.8	127.9	127.1	126.2	119.1	106.0	92.8	79.6	66.5	70.7
105°	170.4	176.4	182.4	188.5	194.5	182.8	153.2	123.7	94.3	64.8	68.9
107.5°	217.2	222.0	226.9	231.7	236.5	220.8	184.4	148.1	111.7	75.3	76.7
110°	247.1	251.3	255.5	259.7	263.9	250.1	218.4	186.7	155.0	123.3	113.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.5	279.2	282.8	286.5	290.0	289.3	284.2	279.2	274.1	269.0	226.6
115°	320.3	323.3	326.3	329.2	332.2	337.1	343.7	350.4	357.1	363.8	309.1
117.5°	360.0	362.9	365.8	368.8	371.7	375.8	381.3	386.7	392.2	397.6	386.2
120°	389.3	391.4	393.6	395.8	397.9	401.7	407.2	412.6	418.0	423.4	427.1
122.5°	414.2	416.2	418.3	420.3	422.4	426.2	431.6	437.0	442.4	447.9	450.9
125°	451.6	453.2	454.8	456.4	458.0	461.2	466.1	471.0	475.9	480.9	483.9
127.5°	485.8	487.6	489.3	490.9	492.7	495.4	499.2	503.0	506.8	510.6	513.9
130°	507.6	509.5	511.4	513.3	515.2	517.6	520.7	523.7	526.7	529.7	533.1
132.5°	529.8	531.4	533.0	534.6	536.1	538.3	540.9	543.6	546.2	548.9	551.9
135°	558.3	560.2	562.2	564.2	566.2	568.1	570.0	571.9	573.8	575.8	578.6
137.5°	587.4	588.8	590.2	591.5	592.9	594.4	596.0	597.6	599.2	600.8	603.5
140°	606.5	607.4	608.3	609.2	610.1	611.3	612.8	614.3	615.9	617.4	619.8
142.5°	622.5	623.3	624.1	624.9	625.7	626.9	628.5	630.1	631.7	633.3	635.3
145°	647.2	647.1	647.0	646.8	646.7	647.7	649.7	651.9	653.9	656.1	657.4
147.5°	669.0	668.6	668.1	667.7	667.2	668.0	670.0	672.1	674.1	676.2	676.9
150°	683.3	682.4	681.5	680.6	679.8	680.3	682.3	684.3	686.3	688.2	689.0
152.5°	695.2	694.3	693.3	692.3	691.3	691.8	693.7	695.5	697.4	699.3	700.1
155°	712.6	711.5	710.4	709.3	708.2	708.4	709.9	711.3	712.8	714.3	715.0
157.5°	726.3	725.3	724.4	723.4	722.5	722.5	723.6	724.6	725.6	726.7	727.5
160°	734.3	733.5	732.8	732.1	731.3	731.3	732.1	732.8	733.5	734.3	735.0
162.5°	741.3	740.6	739.9	739.1	738.4	738.3	738.9	739.7	740.3	740.9	741.7
165°	750.9	750.1	749.4	748.7	747.9	747.7	748.1	748.5	748.8	749.2	750.1
167.5°	758.0	757.2	756.5	755.7	755.0	754.9	755.2	755.5	755.9	756.2	757.1
170°	762.0	761.2	760.5	759.8	759.0	758.8	759.0	759.3	759.5	759.8	760.7
172.5°	764.6	763.9	763.2	762.4	761.7	761.4	761.7	761.9	762.2	762.4	763.3
175°	768.1	767.2	766.4	765.5	764.6	764.3	764.5	764.9	765.1	765.3	766.2
177.5°	768.7	767.9	767.2	766.6	765.9	765.6	765.6	765.8	765.9	766.0	766.7
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	60.5	63.9	67.3	69.6	70.6	71.7	72.7	73.8
90°	66.2	70.0	73.8	76.4	77.6	78.7	80.0	81.2
92.5°	64.7	68.1	71.6	73.9	75.0	76.1	77.2	78.3
95°	70.3	74.0	77.6	79.9	80.7	81.5	82.4	83.3
97.5°	74.1	77.6	81.0	83.3	84.4	85.5	86.6	87.7
100°	75.5	79.5	83.3	86.0	87.1	88.2	89.3	90.4
102.5°	74.9	79.0	83.2	85.9	87.1	88.3	89.5	90.8
105°	73.1	77.2	81.4	84.1	85.6	86.9	88.2	89.7
107.5°	78.0	79.3	80.6	81.9	83.3	84.7	86.0	87.4
110°	103.8	94.0	84.3	80.1	81.4	82.8	84.2	85.6



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CATALOG NUMBER: S122DIW-S290D710U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	184.3	141.9	99.4	78.9	80.2	81.4	82.7	84.0
115°	254.4	199.8	145.1	113.8	105.8	97.8	89.8	81.8
117.5°	374.8	363.3	351.9	332.0	303.6	275.3	247.0	218.6
120°	430.9	434.6	438.3	432.3	416.5	400.8	385.0	369.2
122.5°	454.0	457.0	460.1	460.4	458.0	455.4	453.0	450.5
125°	486.9	489.9	492.9	495.0	496.1	497.2	498.3	499.3
127.5°	517.1	520.4	523.6	525.6	526.4	527.2	527.9	528.7
130°	536.3	539.6	542.9	544.8	545.3	545.8	546.3	546.8
132.5°	554.9	557.9	560.9	562.7	563.2	563.7	564.3	564.7
135°	581.5	584.5	587.4	589.0	589.4	589.8	590.2	590.6
137.5°	606.2	608.9	611.5	612.9	613.1	613.1	613.3	613.4
140°	622.2	624.6	626.9	628.1	628.0	627.8	627.6	627.6
142.5°	637.3	639.4	641.4	642.3	642.1	641.9	641.7	641.5
145°	658.8	660.0	661.4	662.0	661.8	661.6	661.3	661.2
147.5°	677.6	678.3	679.1	679.2	678.9	678.6	678.3	677.9
150°	689.7	690.5	691.2	691.3	690.6	690.0	689.4	688.8
152.5°	700.8	701.6	702.3	702.3	701.4	700.6	699.8	698.9
155°	715.7	716.5	717.2	717.1	716.1	715.2	714.2	713.2
157.5°	728.4	729.2	730.1	730.0	729.0	728.1	727.1	726.1
160°	735.7	736.5	737.2	737.1	736.3	735.4	734.6	733.7
162.5°	742.6	743.4	744.3	744.2	743.1	742.0	740.9	739.9
165°	751.0	751.8	752.7	752.7	751.8	751.0	750.1	749.2
167.5°	758.0	758.8	759.6	759.5	758.4	757.3	756.2	755.1
170°	761.5	762.3	763.2	763.1	762.0	760.9	759.8	758.7
172.5°	764.1	765.0	765.9	765.7	764.6	763.5	762.4	761.3
175°	767.1	767.9	768.7	768.6	767.3	766.1	764.9	763.7
177.5°	767.4	768.0	768.7	768.7	767.8	766.8	766.0	765.1
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4

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