

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: P331473-930

Luminaire Tested: **S122DIW-S290D710U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331473-930
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-S290D710U930-4F0-1E-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: 3288.4 lumens
Efficiency: N/A
Efficacy: 108.2 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

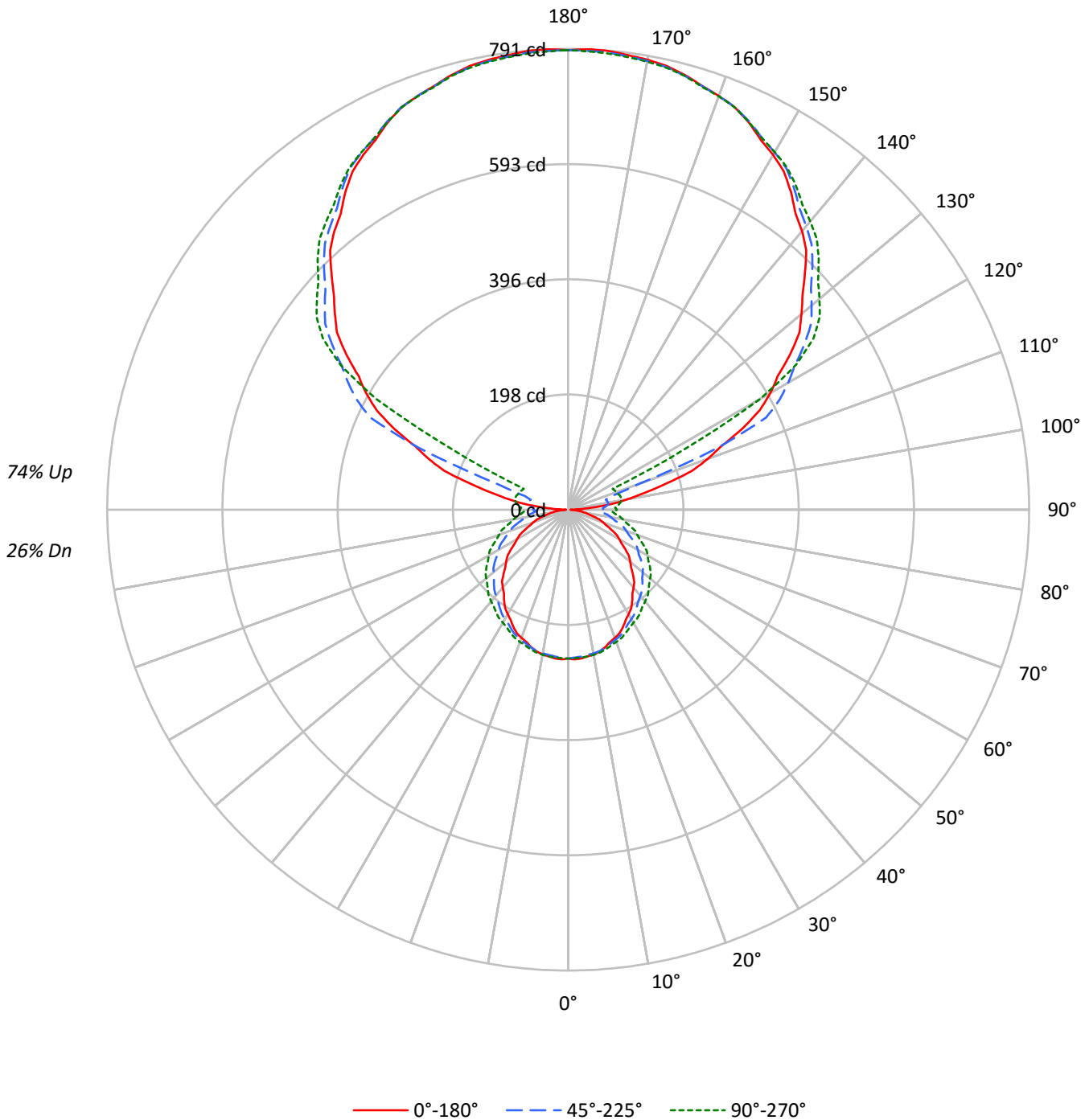
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331473-930

CATALOG NUMBER: S122DIW-S290D710U930-4F0-1E-UDD-D

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	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°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	0.7
10°-20°	69.4	2.1
20°-30°	105.2	3.2
30°-40°	128.2	3.9
40°-50°	137.9	4.2
50°-60°	133.9	4.1
60°-70°	116.9	3.6
70°-80°	90.0	2.7
80°-90°	62.4	1.9
90°-100°	67.9	2.1
100°-110°	126.9	3.9
110°-120°	278.0	8.5
120°-130°	437.0	13.3
130°-140°	457.5	13.9
140°-150°	421.7	12.8
150°-160°	338.4	10.3
160°-170°	218.0	6.6
170°-180°	75.1	2.3
0°-30°	198.9	6.0
0°-40°	327.1	9.9
0°-60°	598.8	18.2
0°-90°	868.1	26.4
90°-120°	472.8	14.4
90°-150°	1788.9	54.4
90°-180°	2420.0	73.6
0°-180°	3288.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	4	32	60	77	84	4
95°	40	40	65	81	86	48
105°	175	194	67	85	92	188
115°	330	344	374	133	84	324
125°	465	473	495	508	514	414
135°	574	584	593	605	608	444
145°	666	666	675	681	680	417
155°	733	729	735	738	734	338
165°	773	770	771	775	771	218
175°	790	787	788	791	786	75
180°	789	789	789	789	789	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.3	12.6	17.8	22.9	28.1	33.4	38.9	44.4	49.8	55.4	58.8
90°	4.2	10.4	16.6	22.7	28.9	35.1	41.4	47.8	54.1	60.3	64.2
92.5°	14.9	19.2	23.6	27.9	32.2	37.2	42.7	48.3	53.9	59.4	63.0
95°	40.0	39.7	39.5	39.1	38.8	41.6	47.4	53.2	59.0	64.8	68.6
97.5°	76.2	67.8	59.5	51.1	42.8	42.0	48.8	55.6	62.4	69.2	72.7
100°	103.6	89.3	74.9	60.7	46.3	42.5	49.2	56.0	62.8	69.5	73.6
102.5°	133.5	132.6	131.7	130.8	129.9	122.6	109.1	95.6	81.9	68.4	72.7
105°	175.4	181.6	187.8	194.0	200.2	188.1	157.7	127.3	97.0	66.7	70.9
107.5°	223.6	228.5	233.5	238.5	243.4	227.2	189.8	152.4	115.0	77.5	78.9
110°	254.3	258.6	262.9	267.3	271.6	257.4	224.8	192.2	159.6	126.9	116.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	283.6	287.3	291.1	294.8	298.5	297.7	292.5	287.3	282.1	276.9	233.3
115°	329.6	332.7	335.8	338.8	341.9	346.9	353.8	360.6	367.5	374.4	318.1
117.5°	370.5	373.5	376.5	379.5	382.5	386.8	392.4	398.0	403.7	409.2	397.5
120°	400.6	402.8	405.1	407.3	409.5	413.4	419.1	424.6	430.2	435.8	439.6
122.5°	426.2	428.4	430.5	432.6	434.7	438.6	444.2	449.8	455.3	461.0	464.1
125°	464.8	466.4	468.1	469.7	471.3	474.7	479.7	484.8	489.8	494.9	498.0
127.5°	500.0	501.8	503.5	505.2	507.0	509.8	513.8	517.7	521.6	525.5	528.9
130°	522.4	524.3	526.3	528.2	530.2	532.7	535.9	539.0	542.1	545.2	548.6
132.5°	545.3	546.9	548.5	550.2	551.8	554.0	556.7	559.5	562.1	564.9	568.0
135°	574.5	576.6	578.6	580.7	582.7	584.7	586.6	588.6	590.5	592.6	595.5
137.5°	604.5	606.0	607.4	608.8	610.2	611.7	613.3	615.1	616.7	618.3	621.1
140°	624.2	625.2	626.1	627.0	627.9	629.2	630.7	632.3	633.9	635.4	637.9
142.5°	640.7	641.5	642.3	643.1	644.0	645.2	646.9	648.5	650.1	651.8	653.8
145°	666.1	665.9	665.9	665.7	665.5	666.6	668.7	670.9	673.0	675.2	676.6
147.5°	688.5	688.1	687.6	687.1	686.6	687.5	689.6	691.7	693.8	695.9	696.7
150°	703.2	702.3	701.4	700.5	699.6	700.2	702.2	704.3	706.3	708.3	709.1
152.5°	715.5	714.5	713.5	712.5	711.5	712.0	714.0	715.8	717.8	719.7	720.5
155°	733.4	732.3	731.2	730.0	728.9	729.0	730.6	732.1	733.6	735.2	735.9
157.5°	747.5	746.5	745.5	744.5	743.6	743.6	744.7	745.8	746.8	747.9	748.8
160°	755.7	754.9	754.2	753.4	752.6	752.6	753.4	754.2	754.9	755.7	756.4
162.5°	763.0	762.2	761.5	760.7	759.9	759.9	760.5	761.2	761.9	762.5	763.4
165°	772.8	772.0	771.3	770.5	769.7	769.6	770.0	770.3	770.7	771.1	772.0
167.5°	780.1	779.3	778.6	777.8	777.1	776.9	777.2	777.6	778.0	778.3	779.2
170°	784.2	783.4	782.7	782.0	781.1	780.9	781.1	781.5	781.7	782.0	782.9
172.5°	786.9	786.2	785.5	784.6	783.9	783.7	783.9	784.2	784.4	784.6	785.5
175°	790.5	789.6	788.7	787.8	786.9	786.6	786.8	787.2	787.4	787.7	788.6
177.5°	791.1	790.4	789.6	789.0	788.2	787.9	788.0	788.1	788.2	788.3	789.0
180°	788.8	788.8	788.8	788.8	788.8	788.8	788.8	788.8	788.8	788.8	788.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	62.3	65.8	69.3	71.6	72.6	73.8	74.8	76.0
90°	68.2	72.1	76.0	78.6	79.8	81.0	82.3	83.6
92.5°	66.6	70.1	73.7	76.1	77.2	78.4	79.5	80.6
95°	72.4	76.1	79.9	82.2	83.1	83.9	84.8	85.7
97.5°	76.3	79.9	83.4	85.8	86.9	88.0	89.1	90.3
100°	77.7	81.8	85.8	88.5	89.6	90.7	91.9	93.0
102.5°	77.0	81.3	85.6	88.4	89.7	90.9	92.1	93.4
105°	75.3	79.5	83.7	86.6	88.1	89.4	90.8	92.3
107.5°	80.2	81.6	82.9	84.3	85.7	87.2	88.5	89.9
110°	106.8	96.8	86.7	82.4	83.8	85.2	86.7	88.1



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CATALOG NUMBER: S122DIW-S290D710U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.6	146.0	102.3	81.2	82.5	83.8	85.1	86.4
115°	261.9	205.6	149.4	117.1	108.9	100.7	92.5	84.2
117.5°	385.7	373.9	362.2	341.7	312.5	283.3	254.2	225.0
120°	443.4	447.3	451.1	444.9	428.7	412.5	396.2	380.0
122.5°	467.2	470.3	473.5	473.9	471.3	468.7	466.2	463.7
125°	501.1	504.2	507.3	509.4	510.5	511.7	512.8	513.9
127.5°	532.2	535.6	538.9	541.0	541.8	542.6	543.3	544.1
130°	552.0	555.3	558.7	560.7	561.2	561.7	562.2	562.8
132.5°	571.1	574.2	577.3	579.1	579.7	580.2	580.7	581.2
135°	598.5	601.5	604.5	606.2	606.6	607.0	607.4	607.8
137.5°	623.9	626.6	629.3	630.8	631.0	631.0	631.2	631.3
140°	640.3	642.8	645.2	646.5	646.3	646.1	646.0	645.9
142.5°	655.9	658.0	660.1	661.0	660.8	660.6	660.4	660.2
145°	678.0	679.3	680.7	681.3	681.1	680.9	680.6	680.4
147.5°	697.4	698.1	698.9	699.0	698.7	698.4	698.1	697.7
150°	709.8	710.6	711.3	711.4	710.8	710.1	709.5	708.9
152.5°	721.2	722.0	722.8	722.8	721.9	721.1	720.2	719.3
155°	736.6	737.4	738.2	738.0	737.0	736.1	735.0	734.0
157.5°	749.7	750.5	751.4	751.3	750.3	749.3	748.4	747.3
160°	757.2	758.0	758.7	758.6	757.7	756.8	756.0	755.1
162.5°	764.3	765.1	766.0	765.9	764.8	763.7	762.5	761.5
165°	772.9	773.7	774.6	774.6	773.7	772.9	772.0	771.1
167.5°	780.1	781.0	781.8	781.7	780.6	779.4	778.3	777.1
170°	783.7	784.6	785.5	785.4	784.2	783.1	782.0	780.8
172.5°	786.4	787.3	788.2	788.1	786.9	785.8	784.6	783.5
175°	789.5	790.3	791.2	791.0	789.7	788.5	787.2	785.9
177.5°	789.8	790.4	791.2	791.1	790.2	789.2	788.3	787.4
180°	788.8	788.8	788.8	788.8	788.8	788.8	788.8	788.8

(END OF REPORT)