

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: P331772-830

Luminaire Tested: **S122RDIW-S290D710U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331772-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D710U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3293.9 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

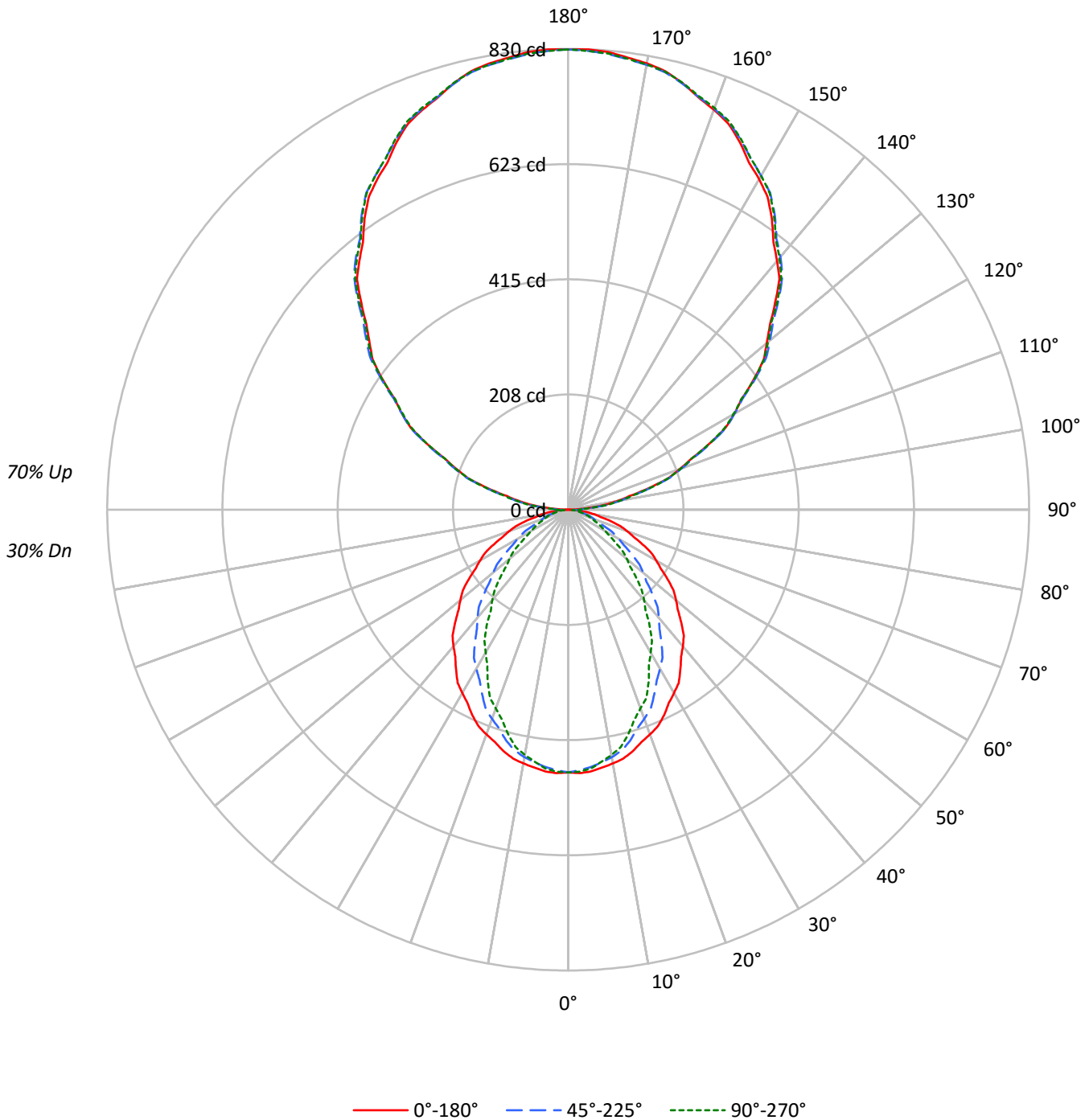
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	89	86	82	84	80	77	75	63	61	59	48	47	45	33	33	32	25
2	85	78	73	68	76	71	66	62	56	52	50	42	40	38	30	29	27	22
3	78	69	62	57	70	62	56	52	49	45	42	38	35	33	27	25	24	19
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	16
5	66	55	47	41	59	49	43	38	39	35	31	30	27	24	22	20	18	14
6	60	49	41	36	54	44	38	33	36	31	27	27	24	22	20	18	16	13
7	56	44	37	31	50	40	33	29	32	27	24	25	22	19	18	16	14	11
8	52	40	33	28	46	36	30	25	29	25	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	15	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7640	7640	7640
5°	7669	7543	7585
10°	7609	7420	7356
15°	7522	7199	6992
20°	7400	6887	6541
25°	7277	6531	6102
30°	7105	6162	5541
35°	6936	5765	5048
40°	6768	5351	4477
45°	6572	4889	3959
50°	6365	4421	3451
55°	6159	3916	2967
60°	5916	3387	2464
65°	5643	2846	2239
70°	5316	2346	2058
75°	4916	2133	1921
80°	4342	1906	1757
85°	3409	1501	1501



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.3	1.3
10°-20°	121.6	3.7
20°-30°	170.8	5.2
30°-40°	186.2	5.7
40°-50°	171.2	5.2
50°-60°	134.5	4.1
60°-70°	87.7	2.7
70°-80°	45.2	1.4
80°-90°	15.0	0.5
90°-100°	52.5	1.6
100°-110°	163.1	5.0
110°-120°	278.8	8.5
120°-130°	366.6	11.1
130°-140°	411.5	12.5
140°-150°	403.5	12.3
150°-160°	338.4	10.3
160°-170°	224.5	6.8
170°-180°	78.5	2.4
0°-30°	336.6	10.2
0°-40°	522.8	15.9
0°-60°	828.5	25.2
0°-90°	976.4	29.6
90°-120°	494.4	15.0
90°-150°	1676.1	50.9
90°-180°	2317.0	70.3
0°-180°	3293.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	473	471	465	469	468	45
15°	450	445	431	423	418	127
25°	408	394	367	350	342	188
35°	352	329	292	266	256	220
45°	288	258	214	185	173	222
55°	219	185	139	114	105	195
65°	148	113	74	61	59	146
75°	79	50	34	31	31	83
85°	18	10	8	8	8	22
90°	1	10	24	23	24	3
95°	36	43	45	45	43	42
105°	150	152	154	155	155	159
115°	280	284	283	282	280	277
125°	407	413	411	409	408	364
135°	527	534	536	535	533	407
145°	639	644	648	649	646	399
155°	731	733	735	738	736	336
165°	795	795	795	799	796	224
175°	827	825	824	828	825	79
180°	829	829	829	829	829	



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	474.9	474.5	474.1	473.7	473.3	472.7	471.8	471.1	470.2	469.4	470.1
5°	473.2	472.7	472.2	471.7	471.3	470.3	469.1	467.9	466.7	465.4	466.3
7.5°	468.3	467.7	467.0	466.5	465.9	464.9	463.4	461.9	460.5	459.1	459.3
10°	464.1	463.4	462.8	462.1	461.5	460.1	458.3	456.4	454.5	452.6	452.3
12.5°	459.0	458.2	457.3	456.6	455.7	454.1	451.7	449.2	446.8	444.3	443.8
15°	450.0	448.9	447.9	446.9	445.8	443.7	440.5	437.2	433.9	430.7	429.0
17.5°	438.9	437.3	435.7	434.1	432.5	429.7	425.6	421.4	417.3	413.1	410.9
20°	430.7	428.9	427.0	425.0	423.1	419.8	415.0	410.3	405.6	400.8	398.4
22.5°	421.9	419.7	417.5	415.5	413.3	409.5	404.2	398.8	393.5	388.1	385.0
25°	408.5	405.4	402.4	399.4	396.3	391.6	385.3	379.1	372.8	366.6	362.6
27.5°	392.4	389.1	385.8	382.5	379.1	373.9	366.8	359.8	352.7	345.6	341.1
30°	381.1	377.5	373.8	370.2	366.6	361.0	353.4	345.8	338.2	330.5	325.7
32.5°	370.1	365.9	361.7	357.4	353.2	347.2	339.5	331.7	324.0	316.1	310.7
35°	351.9	347.1	342.2	337.4	332.5	325.9	317.5	309.2	300.9	292.5	286.4
37.5°	333.8	328.5	323.1	317.8	312.5	305.4	296.4	287.5	278.6	269.7	263.1
40°	321.1	315.5	309.7	304.0	298.3	290.9	281.6	272.4	263.2	253.9	247.1
42.5°	308.1	302.1	296.1	290.1	284.1	276.3	266.7	257.2	247.7	238.2	231.2
45°	287.8	281.3	274.9	268.6	262.2	254.0	244.0	234.0	224.0	214.1	207.4
47.5°	267.9	261.1	254.4	247.6	240.8	232.3	222.0	211.7	201.3	191.1	184.4
50°	253.4	246.8	240.0	233.2	226.5	217.8	207.4	196.9	186.4	176.0	169.4
52.5°	239.4	232.3	225.4	218.3	211.2	202.6	192.3	182.1	171.8	161.6	155.2
55°	218.8	211.4	204.0	196.5	189.1	180.3	169.9	159.7	149.4	139.1	133.5
57.5°	197.7	190.0	182.4	174.8	167.2	158.4	148.5	138.7	128.8	118.9	113.7
60°	183.2	175.7	168.1	160.4	152.8	144.1	134.3	124.5	114.7	104.9	100.0
62.5°	169.2	161.6	154.0	146.4	138.7	130.3	120.9	111.6	102.3	92.9	88.3
65°	147.7	140.0	132.3	124.6	116.9	108.8	100.2	91.6	83.0	74.5	71.3
67.5°	127.0	119.3	111.7	104.1	96.4	88.7	81.0	73.3	65.6	57.9	56.4
70°	112.6	105.2	97.7	90.4	82.9	76.0	69.4	62.8	56.3	49.7	48.7
72.5°	98.9	91.8	84.6	77.6	70.4	64.3	59.0	53.7	48.4	43.2	42.3
75°	78.8	72.1	65.5	58.8	52.1	47.2	43.9	40.7	37.5	34.2	33.6
77.5°	59.0	53.2	47.3	41.5	35.6	32.0	30.3	28.8	27.2	25.7	25.4
80°	46.7	41.8	36.9	32.1	27.2	24.3	23.4	22.4	21.5	20.5	20.2
82.5°	35.3	31.6	27.8	24.0	20.3	18.0	17.3	16.7	16.0	15.5	15.2
85°	18.4	16.4	14.4	12.4	10.5	9.2	9.0	8.7	8.4	8.1	8.1
87.5°	5.7	5.4	5.2	4.9	4.7	4.9	5.6	6.3	7.0	7.6	7.5
90°	0.7	2.5	4.4	6.3	8.2	10.8	14.2	17.6	21.0	24.5	24.1
92.5°	12.4	13.9	15.2	16.6	17.9	19.0	19.8	20.6	21.4	22.2	22.3
95°	36.4	37.9	39.5	41.0	42.6	43.5	43.8	44.1	44.5	44.8	44.8
97.5°	66.4	67.8	69.2	70.5	71.9	72.9	73.5	74.1	74.6	75.2	75.2
100°	88.8	90.1	91.3	92.6	93.8	94.6	95.1	95.6	96.0	96.5	96.5
102.5°	112.4	113.3	114.3	115.3	116.3	117.1	117.7	118.3	118.9	119.4	119.6
105°	150.3	150.8	151.3	151.7	152.2	152.6	153.0	153.3	153.5	153.9	154.2
107.5°	188.7	189.4	190.1	190.8	191.4	191.8	191.8	191.8	191.8	191.8	191.9
110°	213.3	214.2	215.2	216.1	217.1	217.5	217.5	217.5	217.5	217.5	217.5



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	240.2	241.1	242.0	243.0	243.9	244.3	244.2	244.0	243.9	243.8	243.5
115°	279.7	280.7	281.6	282.6	283.5	283.8	283.5	283.1	282.9	282.6	282.4
117.5°	319.2	320.5	321.7	322.9	324.1	324.3	323.5	322.6	321.8	320.9	320.6
120°	345.5	346.8	348.0	349.2	350.4	350.4	349.2	348.0	346.8	345.5	345.5
122.5°	369.6	371.1	372.6	374.0	375.5	375.9	374.9	374.1	373.2	372.4	372.0
125°	407.1	408.5	409.8	411.2	412.6	413.1	412.6	412.2	411.7	411.2	410.8
127.5°	443.6	445.4	447.1	448.8	450.6	451.3	450.7	450.2	449.6	449.0	448.5
130°	466.5	468.5	470.5	472.6	474.6	475.4	475.1	474.9	474.5	474.2	473.9
132.5°	492.3	493.9	495.6	497.2	498.8	499.7	499.7	499.8	499.9	499.9	499.3
135°	526.7	528.4	530.1	531.8	533.5	534.5	534.8	535.2	535.5	535.7	535.6
137.5°	562.9	564.3	565.7	567.1	568.4	569.4	569.8	570.2	570.6	571.0	570.9
140°	584.8	586.1	587.5	588.9	590.3	591.4	592.2	593.0	593.7	594.5	594.5
142.5°	607.1	608.5	609.9	611.3	612.7	613.7	614.2	614.7	615.2	615.8	615.9
145°	639.2	640.4	641.4	642.5	643.7	644.6	645.5	646.5	647.4	648.4	648.5
147.5°	668.0	669.2	670.5	671.8	673.2	674.1	674.8	675.3	676.0	676.7	676.9
150°	687.5	688.4	689.4	690.3	691.3	692.0	692.7	693.2	693.9	694.6	695.0
152.5°	704.8	705.8	706.7	707.7	708.6	709.5	710.2	711.0	711.7	712.5	713.0
155°	730.8	731.3	731.8	732.3	732.7	733.2	733.7	734.1	734.6	735.1	735.8
157.5°	753.1	753.5	753.8	754.0	754.4	754.7	755.0	755.3	755.5	755.8	756.9
160°	766.6	766.9	767.1	767.5	767.8	768.1	768.2	768.4	768.5	768.6	769.6
162.5°	778.8	778.9	779.0	779.0	779.1	779.2	779.4	779.6	779.7	779.9	780.9
165°	795.2	795.0	794.9	794.8	794.7	794.6	794.6	794.6	794.6	794.6	795.6
167.5°	809.0	808.5	808.0	807.6	807.1	806.8	806.8	806.7	806.7	806.7	807.8
170°	816.2	815.8	815.3	814.8	814.4	814.1	813.9	813.7	813.6	813.4	814.5
172.5°	821.2	820.8	820.3	819.8	819.4	819.1	818.9	818.8	818.6	818.4	819.5
175°	827.4	827.0	826.5	826.0	825.6	825.2	824.8	824.5	824.3	823.9	825.0
177.5°	829.9	829.5	829.2	828.8	828.4	828.1	827.8	827.6	827.4	827.1	827.8
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	470.9	471.6	472.4	472.7	472.6	472.4	472.2	472.1
5°	467.1	468.0	468.8	469.1	468.8	468.5	468.3	468.0
7.5°	459.6	459.9	460.1	460.0	459.5	458.9	458.5	458.0
10°	452.0	451.8	451.5	451.0	450.4	449.9	449.3	448.7
12.5°	443.4	442.8	442.3	441.6	440.6	439.7	438.8	437.8
15°	427.2	425.3	423.5	422.2	421.2	420.2	419.2	418.3
17.5°	408.8	406.6	404.5	402.7	401.0	399.4	397.7	396.1
20°	396.1	393.6	391.2	389.0	386.9	384.8	382.8	380.7
22.5°	382.0	378.9	375.9	373.5	371.9	370.4	368.8	367.3
25°	358.7	354.8	350.9	348.3	346.9	345.3	343.9	342.5
27.5°	336.5	332.0	327.4	324.0	321.8	319.5	317.3	315.0
30°	320.8	316.0	311.1	307.5	304.8	302.3	299.7	297.2
32.5°	305.1	299.5	294.0	290.0	287.7	285.2	282.8	280.4
35°	280.5	274.5	268.4	264.4	262.3	260.2	258.2	256.1
37.5°	256.5	249.9	243.3	238.7	236.4	233.9	231.6	229.1
40°	240.4	233.7	226.9	222.3	219.8	217.4	214.8	212.4
42.5°	224.1	217.2	210.2	205.6	203.1	200.8	198.3	196.0
45°	200.6	193.8	187.1	182.6	180.3	178.0	175.7	173.4
47.5°	177.6	170.9	164.2	159.8	157.7	155.6	153.5	151.5
50°	162.9	156.3	149.7	145.4	143.5	141.5	139.4	137.4
52.5°	148.9	142.6	136.3	132.1	130.4	128.5	126.6	124.8
55°	127.7	122.1	116.3	112.5	110.7	109.0	107.2	105.4
57.5°	108.5	103.2	98.0	94.6	93.1	91.6	90.1	88.5
60°	95.2	90.4	85.5	82.3	80.8	79.3	77.8	76.3
62.5°	83.7	79.1	74.5	71.6	70.7	69.8	68.9	68.0
65°	68.1	64.8	61.5	59.8	59.5	59.2	58.9	58.6
67.5°	55.0	53.4	51.9	51.1	50.7	50.4	50.1	49.9
70°	47.8	46.8	45.9	45.2	44.8	44.4	44.0	43.6
72.5°	41.6	40.7	40.0	39.5	39.2	39.0	38.7	38.5
75°	32.9	32.2	31.6	31.2	31.1	31.0	30.9	30.8
77.5°	24.9	24.5	24.1	23.9	23.8	23.6	23.5	23.3
80°	19.8	19.4	19.0	18.9	18.9	18.9	18.9	18.9
82.5°	15.0	14.7	14.5	14.4	14.4	14.4	14.4	14.4
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	7.4	7.3	7.1	7.1	7.1	7.1	7.2	7.2
90°	23.8	23.6	23.3	23.2	23.3	23.5	23.7	23.8
92.5°	22.3	22.4	22.5	22.5	22.5	22.6	22.6	22.6
95°	44.8	44.8	44.8	44.6	44.3	44.0	43.6	43.4
97.5°	75.2	75.2	75.2	75.2	75.2	75.2	75.1	75.1
100°	96.5	96.5	96.5	96.4	96.3	96.1	96.0	95.9
102.5°	119.7	119.8	120.0	120.0	119.8	119.6	119.5	119.3
105°	154.5	154.8	155.1	155.2	155.2	155.2	155.2	155.2
107.5°	192.0	192.2	192.3	192.0	191.2	190.6	189.8	189.2
110°	217.5	217.5	217.5	217.3	216.8	216.3	215.8	215.5



TEST NUMBER: P331772-830

CATALOG NUMBER: S122RDIW-S290D710U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	243.1	242.7	242.3	242.0	241.7	241.3	240.9	240.6
115°	282.3	282.1	281.9	281.6	281.2	280.7	280.2	279.7
117.5°	320.2	319.8	319.4	319.0	318.5	318.0	317.5	317.1
120°	345.5	345.5	345.5	345.3	344.8	344.3	343.8	343.4
122.5°	371.6	371.3	370.9	370.5	370.1	369.9	369.5	369.2
125°	410.3	409.8	409.3	409.1	409.0	408.8	408.6	408.5
127.5°	447.9	447.3	446.8	446.3	445.7	445.3	444.8	444.3
130°	473.6	473.3	473.0	472.5	471.8	471.3	470.6	470.0
132.5°	498.6	497.9	497.2	496.6	496.2	495.6	495.1	494.6
135°	535.5	535.3	535.2	534.8	534.3	533.9	533.4	532.9
137.5°	570.7	570.6	570.5	570.1	569.5	568.9	568.3	567.6
140°	594.5	594.5	594.5	594.2	593.6	593.0	592.3	591.7
142.5°	616.0	616.1	616.2	616.0	615.4	614.7	614.2	613.5
145°	648.7	648.8	648.9	648.8	648.1	647.5	646.9	646.3
147.5°	677.3	677.6	678.0	677.9	677.3	676.7	676.1	675.5
150°	695.4	695.9	696.4	696.4	695.9	695.4	695.0	694.6
152.5°	713.6	714.2	714.8	714.8	714.2	713.6	713.0	712.5
155°	736.6	737.4	738.2	738.4	737.9	737.4	737.0	736.5
157.5°	757.9	758.9	760.0	760.2	759.4	758.7	757.9	757.1
160°	770.5	771.5	772.4	772.5	771.9	771.3	770.7	770.1
162.5°	781.9	783.1	784.1	784.2	783.4	782.8	782.0	781.3
165°	796.7	797.8	798.9	799.1	798.2	797.5	796.7	796.0
167.5°	808.9	809.9	811.1	811.2	810.4	809.5	808.8	807.9
170°	815.6	816.7	817.7	817.8	816.9	816.0	815.0	814.1
172.5°	820.7	821.7	822.8	822.8	822.0	821.0	820.1	819.2
175°	826.0	827.2	828.3	828.3	827.4	826.5	825.6	824.6
177.5°	828.6	829.3	830.1	830.1	829.3	828.6	827.8	827.1
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8

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