

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: P331468-830

Luminaire Tested: **S122DIW-S290D435U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331468-830
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: S122DIW-S290D435U830-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2544.1 lumens
Efficiency: N/A
Efficacy: 110.6 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

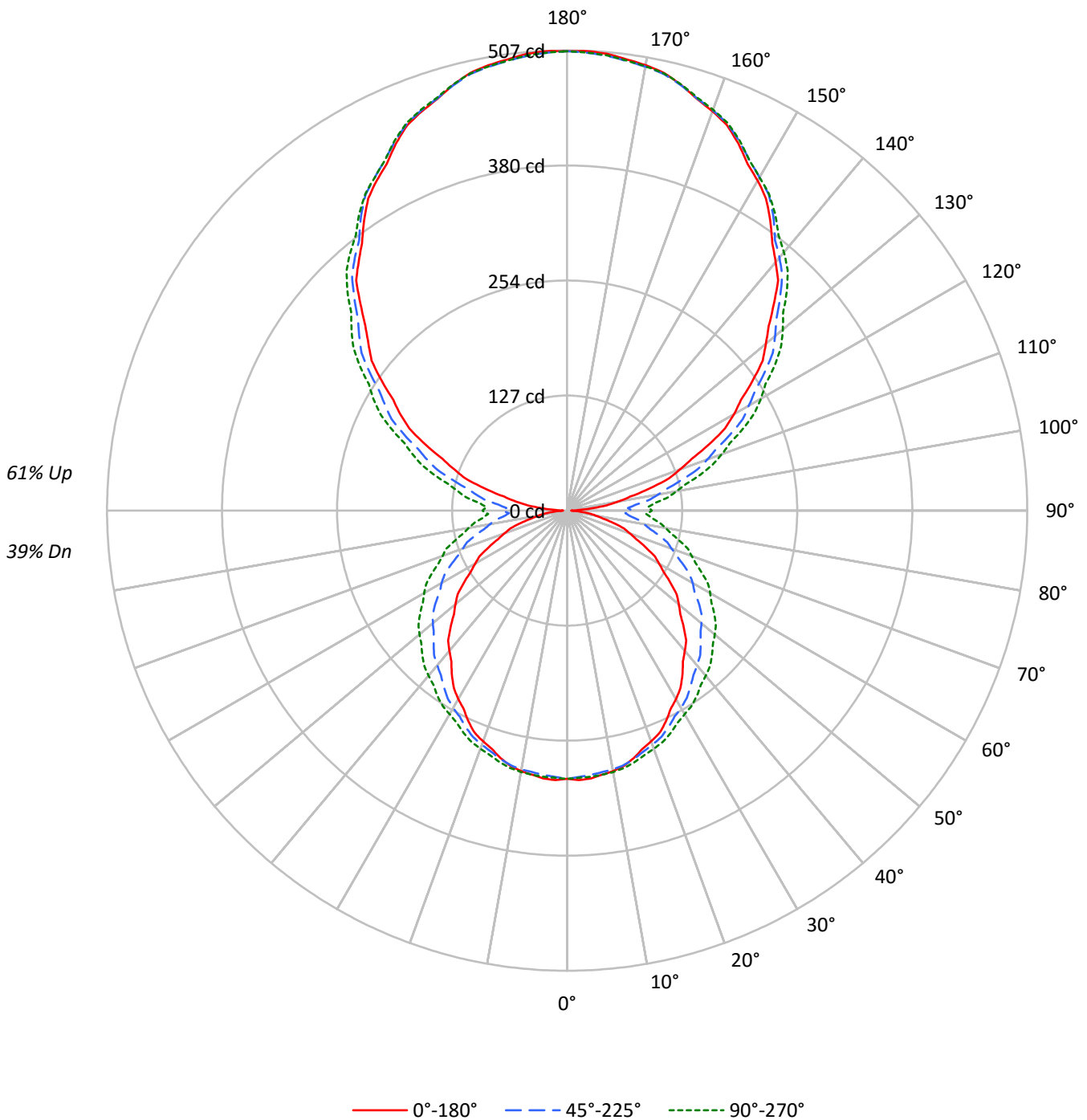
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	77	68	60	54	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	23	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	12	10
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.0	1.1
10°-20°	80.3	3.2
20°-30°	121.6	4.8
30°-40°	148.2	5.8
40°-50°	159.4	6.3
50°-60°	154.8	6.1
60°-70°	135.2	5.3
70°-80°	104.1	4.1
80°-90°	71.9	2.8
90°-100°	80.2	3.2
100°-110°	134.7	5.3
110°-120°	193.4	7.6
120°-130°	236.8	9.3
130°-140°	256.7	10.1
140°-150°	247.3	9.7
150°-160°	206.6	8.1
160°-170°	137.1	5.4
170°-180°	47.9	1.9
0°-30°	229.9	9.0
0°-40°	378.1	14.9
0°-60°	692.3	27.2
0°-90°	1003.4	39.4
90°-120°	408.3	16.0
90°-150°	1149.1	45.2
90°-180°	1541.0	60.6
0°-180°	2544.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	35	71	87	93	4
95°	26	50	76	92	97	28
105°	94	108	131	146	151	99
115°	172	180	198	210	214	170
125°	249	254	266	276	279	223
135°	322	327	332	340	342	249
145°	390	393	396	399	399	244
155°	446	448	449	451	450	205
165°	486	485	485	488	486	137
175°	505	504	503	506	504	48
180°	506	506	506	506	506	



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.5	14.4	20.3	26.2	32.0	38.3	44.8	51.3	57.8	64.3	68.1
90°	4.7	11.4	18.0	24.7	31.3	38.7	46.9	55.1	63.2	71.4	75.1
92.5°	11.5	17.5	23.5	29.5	35.4	41.6	48.0	54.3	60.7	67.0	70.8
95°	25.6	31.0	36.5	41.8	47.3	53.0	58.9	64.8	70.7	76.5	80.2
97.5°	43.5	48.4	53.2	58.0	62.8	68.1	74.0	79.8	85.7	91.5	95.0
100°	57.2	61.5	65.8	70.0	74.4	79.3	84.9	90.5	96.1	101.7	105.3
102.5°	71.3	75.0	78.9	82.7	86.5	91.2	96.7	102.3	107.8	113.4	116.9
105°	94.0	97.0	100.0	103.1	106.1	110.2	115.4	120.5	125.6	130.7	134.3
107.5°	117.3	119.9	122.5	125.2	127.8	131.5	136.2	140.9	145.6	150.4	153.6
110°	132.0	134.4	136.9	139.4	141.9	145.4	150.1	154.8	159.4	164.1	167.1



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.4	150.5	152.7	154.9	157.0	160.3	164.7	169.0	173.3	177.8	180.5
115°	172.5	174.2	175.8	177.4	179.0	181.8	186.0	190.0	194.2	198.2	201.0
117.5°	196.1	197.7	199.1	200.5	202.0	204.4	207.8	211.2	214.7	218.1	220.6
120°	212.3	213.4	214.5	215.7	216.8	218.9	222.0	225.0	228.0	231.1	233.8
122.5°	227.0	228.0	229.0	230.1	231.2	233.3	236.3	239.3	242.3	245.4	247.8
125°	249.4	250.2	251.1	251.9	252.8	254.6	257.4	260.1	262.9	265.6	268.0
127.5°	271.6	272.7	273.6	274.7	275.6	277.2	279.3	281.4	283.5	285.6	287.7
130°	285.7	286.8	287.9	289.1	290.2	291.7	293.5	295.3	297.1	299.0	301.0
132.5°	301.4	302.3	303.2	304.2	305.0	306.3	307.8	309.4	311.0	312.6	314.4
135°	322.0	323.0	324.0	325.1	326.1	327.3	328.4	329.5	330.6	331.8	333.8
137.5°	344.1	345.0	345.7	346.6	347.4	348.2	348.8	349.5	350.2	350.8	352.5
140°	357.4	358.2	358.9	359.7	360.4	361.2	361.8	362.5	363.2	363.8	365.3
142.5°	371.1	371.8	372.6	373.3	374.1	374.7	375.0	375.4	375.8	376.2	377.4
145°	390.3	391.0	391.6	392.3	392.9	393.6	394.2	394.7	395.3	395.9	396.5
147.5°	407.8	408.6	409.4	410.2	411.0	411.6	412.0	412.4	412.7	413.1	413.4
150°	419.8	420.4	420.9	421.5	422.1	422.5	422.9	423.3	423.7	424.0	424.3
152.5°	430.4	430.9	431.5	432.1	432.6	433.2	433.6	434.0	434.5	435.0	435.4
155°	446.2	446.5	446.8	447.1	447.4	447.7	448.0	448.3	448.6	448.8	449.3
157.5°	459.9	460.1	460.2	460.4	460.6	460.7	460.9	461.1	461.3	461.5	462.1
160°	468.1	468.3	468.4	468.6	468.8	468.9	469.0	469.1	469.2	469.3	469.9
162.5°	475.5	475.6	475.6	475.6	475.7	475.8	475.9	476.0	476.1	476.2	476.7
165°	485.5	485.4	485.3	485.2	485.1	485.1	485.1	485.1	485.1	485.1	485.8
167.5°	493.9	493.6	493.3	493.0	492.8	492.6	492.6	492.6	492.6	492.6	493.2
170°	498.3	498.0	497.8	497.5	497.2	497.0	496.9	496.8	496.7	496.6	497.3
172.5°	501.4	501.1	500.9	500.6	500.3	500.1	500.0	499.9	499.8	499.7	500.4
175°	505.2	504.9	504.6	504.4	504.1	503.8	503.6	503.4	503.2	503.0	503.7
177.5°	506.7	506.5	506.2	506.1	505.8	505.6	505.5	505.3	505.1	505.0	505.5
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	72.0	75.9	79.6	82.2	83.4	84.7	86.0	87.2
90°	78.7	82.3	86.0	88.3	89.6	90.9	92.1	93.3
92.5°	74.6	78.3	82.1	84.5	85.7	86.9	88.0	89.2
95°	83.8	87.4	91.0	93.3	94.3	95.2	96.1	97.1
97.5°	98.6	102.1	105.6	107.9	109.0	110.1	111.2	112.4
100°	108.8	112.4	115.8	118.1	119.0	120.0	120.9	121.9
102.5°	120.4	123.9	127.4	129.7	130.6	131.6	132.5	133.5
105°	137.8	141.3	144.9	147.1	148.2	149.2	150.2	151.3
107.5°	156.9	160.2	163.5	165.4	166.1	166.6	167.3	167.9
110°	170.1	173.2	176.3	178.1	178.9	179.6	180.4	181.2



TEST NUMBER: P331468-830

CATALOG NUMBER: S122DIW-S290D435U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	183.3	186.2	189.0	190.8	191.6	192.5	193.3	194.2
115°	203.7	206.5	209.2	211.0	211.8	212.5	213.3	214.1
117.5°	223.3	225.8	228.5	230.1	230.7	231.5	232.1	232.8
120°	236.4	239.0	241.8	243.5	244.2	245.0	245.7	246.5
122.5°	250.2	252.5	254.9	256.4	257.0	257.8	258.4	259.1
125°	270.2	272.5	274.8	276.4	277.1	277.9	278.6	279.4
127.5°	289.6	291.7	293.7	295.0	295.5	296.1	296.6	297.1
130°	303.1	305.2	307.4	308.6	309.0	309.3	309.7	310.1
132.5°	316.2	318.0	319.8	320.8	321.3	321.8	322.3	322.7
135°	335.6	337.5	339.4	340.6	341.1	341.6	342.0	342.5
137.5°	354.2	355.9	357.5	358.5	358.8	359.0	359.3	359.6
140°	366.8	368.4	369.9	370.8	371.0	371.2	371.4	371.6
142.5°	378.7	380.0	381.3	382.0	382.1	382.2	382.4	382.5
145°	397.2	397.8	398.5	398.9	399.0	399.1	399.2	399.3
147.5°	413.7	414.0	414.2	414.3	414.2	414.1	414.0	413.8
150°	424.6	424.9	425.2	425.2	424.9	424.6	424.3	424.0
152.5°	435.6	436.0	436.4	436.4	436.0	435.6	435.4	435.0
155°	449.8	450.3	450.7	450.8	450.5	450.3	450.0	449.7
157.5°	462.7	463.4	464.0	464.1	463.6	463.2	462.8	462.3
160°	470.4	471.0	471.6	471.6	471.3	470.9	470.5	470.1
162.5°	477.4	478.1	478.7	478.8	478.3	477.9	477.4	477.0
165°	486.4	487.1	487.8	487.9	487.4	486.9	486.4	486.0
167.5°	493.9	494.6	495.2	495.3	494.7	494.3	493.8	493.3
170°	497.9	498.6	499.3	499.4	498.8	498.2	497.7	497.1
172.5°	501.1	501.7	502.4	502.4	501.8	501.2	500.7	500.1
175°	504.4	505.0	505.7	505.8	505.2	504.6	504.1	503.5
177.5°	506.0	506.3	506.8	506.8	506.3	506.0	505.5	505.0
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1

(END OF REPORT)