

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: P331497-840

Luminaire Tested: **S122DIW-S485D435U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331497-840
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-S485D435U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3735.0 lumens
Efficiency: N/A
Efficacy: 123.7 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: General Diffuse

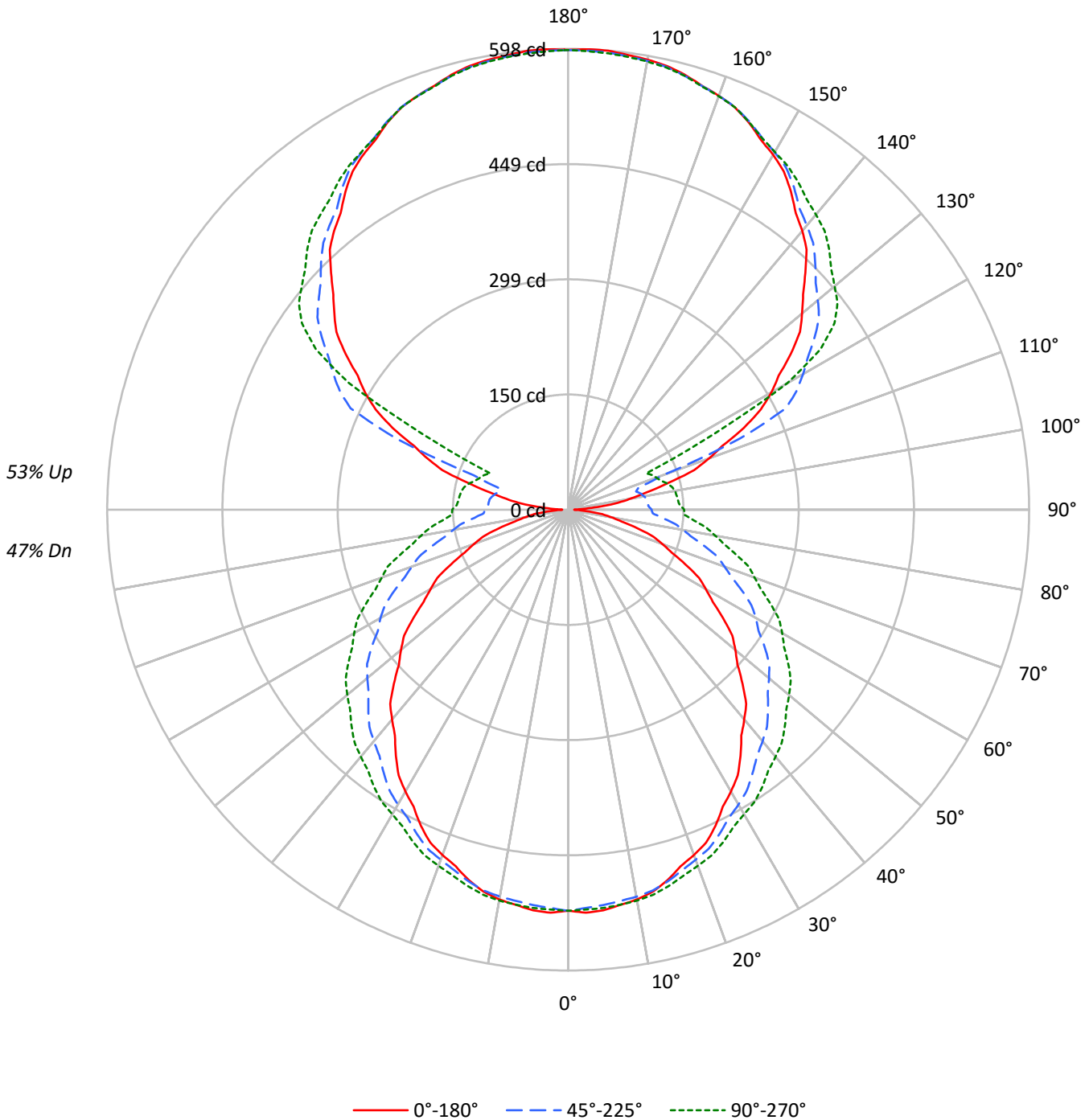
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-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	0
RCR																		
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	96	91	86	82	88	83	80	76	70	67	64	57	55	53	45	44	42	37
2	87	78	72	66	79	72	66	61	60	56	52	49	46	43	39	37	35	30
3	79	69	61	54	72	63	56	51	53	47	43	43	39	36	34	31	29	25
4	72	60	52	46	65	56	48	42	46	41	36	38	34	30	30	27	24	21
5	66	54	45	39	60	49	42	36	41	35	31	34	29	26	27	24	21	18
6	60	48	39	33	55	44	37	31	37	31	27	31	26	23	24	21	18	15
7	56	43	35	29	51	40	32	27	34	28	23	28	23	20	22	19	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	21	28	22	18	23	19	16	19	15	13	11
10	45	33	25	20	41	30	23	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.3	1.3
10°-20°	141.4	3.8
20°-30°	214.3	5.7
30°-40°	261.0	7.0
40°-50°	280.8	7.5
50°-60°	272.7	7.3
60°-70°	238.1	6.4
70°-80°	183.3	4.9
80°-90°	124.5	3.3
90°-100°	104.6	2.8
100°-110°	134.8	3.6
110°-120°	235.9	6.3
120°-130°	344.8	9.2
130°-140°	352.0	9.4
140°-150°	319.9	8.6
150°-160°	255.9	6.9
160°-170°	164.9	4.4
170°-180°	56.8	1.5
0°-30°	405.0	10.8
0°-40°	666.0	17.8
0°-60°	1219.4	32.6
0°-90°	1765.3	47.3
90°-120°	475.4	12.7
90°-150°	1492.1	40.0
90°-180°	1970.0	52.7
0°-180°	3735.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	8	57	108	139	150	6
95°	34	57	104	133	143	39
105°	135	164	91	121	132	145
115°	251	268	312	143	112	247
125°	352	360	390	413	422	314
135°	435	442	453	473	479	336
145°	504	504	511	518	520	315
155°	555	551	556	558	555	255
165°	584	582	583	586	583	165
175°	598	595	596	598	594	57
180°	596	596	596	596	596	



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	14.8	25.0	35.2	45.4	55.6	66.2	77.1	88.0	98.9	109.8	116.6
90°	8.0	18.8	29.5	40.3	51.1	62.2	73.7	85.2	96.6	108.2	115.3
92.5°	15.7	24.6	33.5	42.5	51.5	61.3	72.0	82.7	93.4	104.1	111.0
95°	34.1	38.8	43.5	48.3	52.9	60.7	71.4	82.1	92.8	103.6	110.4
97.5°	61.0	59.1	57.2	55.2	53.3	58.0	69.2	80.4	91.6	102.8	109.4
100°	81.7	74.7	67.8	60.9	53.9	55.9	67.0	78.0	89.0	100.0	106.9
102.5°	103.9	106.7	109.7	112.5	115.4	114.6	110.1	105.5	101.0	96.4	103.5
105°	135.0	142.7	150.5	158.2	165.9	161.1	143.6	126.1	108.7	91.2	98.2
107.5°	171.4	177.5	183.8	190.0	196.2	187.7	164.7	141.7	118.6	95.5	100.1
110°	194.2	199.5	205.0	210.4	215.7	208.6	189.1	169.7	150.1	130.6	126.3



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	216.3	221.0	225.5	230.1	234.7	237.5	238.4	239.4	240.3	241.4	211.8
115°	251.3	254.7	258.1	261.7	265.1	271.9	281.8	291.6	301.6	311.5	272.2
117.5°	281.7	284.7	287.7	290.7	293.8	299.5	308.2	316.8	325.4	334.1	328.3
120°	304.4	306.5	308.6	310.7	312.9	318.1	326.6	335.0	343.4	351.8	357.7
122.5°	323.8	325.5	327.3	329.1	330.8	335.9	344.1	352.2	360.4	368.6	373.9
125°	352.4	353.7	355.0	356.2	357.4	361.6	368.8	376.0	383.1	390.4	395.6
127.5°	379.1	380.3	381.5	382.7	384.0	387.4	393.1	398.8	404.5	410.1	415.3
130°	396.1	397.4	398.8	400.1	401.5	404.5	409.0	413.6	418.2	422.7	427.9
132.5°	413.2	414.4	415.6	416.7	417.9	420.3	424.0	427.8	431.6	435.4	440.2
135°	434.9	436.5	438.1	439.6	441.1	443.1	445.7	448.3	450.8	453.3	457.8
137.5°	457.7	458.7	459.8	460.8	461.8	463.2	464.9	466.7	468.4	470.1	474.1
140°	472.5	473.1	473.7	474.3	474.9	475.9	477.4	478.7	480.1	481.5	485.0
142.5°	484.9	485.4	486.0	486.6	487.1	488.0	489.2	490.5	491.8	493.0	495.9
145°	503.7	503.6	503.5	503.4	503.3	504.1	505.7	507.4	509.0	510.6	512.3
147.5°	520.7	520.4	520.0	519.7	519.3	519.9	521.5	523.1	524.7	526.3	526.9
150°	531.8	531.1	530.4	529.8	529.1	529.5	531.1	532.6	534.1	535.6	536.2
152.5°	541.1	540.4	539.6	538.9	538.1	538.5	539.9	541.4	542.8	544.3	544.8
155°	554.6	553.8	552.9	552.1	551.2	551.4	552.5	553.6	554.8	555.9	556.5
157.5°	565.2	564.5	563.8	563.1	562.4	562.4	563.2	564.0	564.8	565.6	566.2
160°	571.5	570.9	570.4	569.8	569.2	569.2	569.8	570.4	570.9	571.5	572.1
162.5°	577.0	576.4	575.8	575.3	574.7	574.7	575.1	575.6	576.1	576.6	577.3
165°	584.4	583.9	583.3	582.7	582.1	582.0	582.3	582.6	582.9	583.1	583.8
167.5°	590.0	589.4	588.9	588.2	587.6	587.5	587.7	588.0	588.3	588.5	589.3
170°	593.1	592.5	591.9	591.4	590.8	590.6	590.8	591.0	591.2	591.4	592.0
172.5°	595.1	594.6	594.0	593.4	592.8	592.7	592.8	593.0	593.2	593.4	594.1
175°	597.8	597.1	596.4	595.8	595.1	594.9	595.1	595.3	595.4	595.6	596.3
177.5°	598.2	597.7	597.1	596.6	596.1	595.8	595.9	596.0	596.1	596.1	596.7
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	123.6	130.6	137.4	142.0	144.2	146.4	148.6	150.8
90°	122.6	129.8	136.9	141.6	143.8	146.0	148.2	150.5
92.5°	117.8	124.6	131.4	135.9	138.0	140.2	142.3	144.4
95°	117.2	124.1	131.0	135.3	137.2	139.2	141.1	143.0
97.5°	115.9	122.5	129.2	133.5	135.5	137.6	139.8	141.8
100°	113.9	120.9	127.8	132.4	134.4	136.4	138.6	140.6
102.5°	110.6	117.6	124.7	129.4	131.5	133.6	135.6	137.7
105°	105.0	112.0	118.9	123.4	125.6	127.9	130.2	132.4
107.5°	104.6	109.2	113.8	117.1	119.4	121.6	123.8	126.0
110°	122.1	118.0	113.7	112.7	114.9	117.1	119.4	121.6



TEST NUMBER: P331497-840

CATALOG NUMBER: S122DIW-S485D435U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	182.1	152.5	122.8	109.1	111.3	113.4	115.5	117.8
115°	232.8	193.4	154.0	131.8	126.7	121.7	116.6	111.6
117.5°	322.4	316.7	310.9	297.5	276.5	255.6	234.6	213.6
120°	363.6	369.4	375.2	372.5	361.4	350.3	339.2	328.2
122.5°	379.1	384.4	389.6	391.7	390.8	389.9	388.9	388.0
125°	400.8	406.0	411.1	414.7	416.5	418.3	420.0	421.8
127.5°	420.4	425.6	430.7	434.0	435.6	437.1	438.6	440.2
130°	432.9	438.0	443.0	446.3	447.5	448.7	450.0	451.2
132.5°	444.9	449.7	454.5	457.6	458.8	460.0	461.3	462.5
135°	462.3	466.8	471.2	474.0	475.1	476.4	477.5	478.7
137.5°	478.2	482.1	486.1	488.6	489.4	490.2	491.0	491.8
140°	488.6	492.1	495.6	497.7	498.3	498.8	499.3	499.8
142.5°	498.9	501.8	504.7	506.4	506.9	507.3	507.7	508.0
145°	514.0	515.6	517.4	518.4	518.7	519.1	519.4	519.8
147.5°	527.6	528.3	528.9	529.2	529.2	529.2	529.2	529.2
150°	536.8	537.3	538.0	538.1	537.6	537.0	536.5	536.1
152.5°	545.4	546.0	546.6	546.5	545.9	545.3	544.6	544.0
155°	557.1	557.6	558.3	558.2	557.3	556.6	555.8	555.1
157.5°	566.9	567.5	568.3	568.2	567.4	566.6	565.9	565.2
160°	572.6	573.2	573.8	573.7	573.1	572.4	571.7	571.1
162.5°	577.9	578.7	579.3	579.2	578.3	577.5	576.7	575.9
165°	584.5	585.1	585.8	585.8	585.1	584.5	583.8	583.1
167.5°	590.0	590.6	591.3	591.2	590.3	589.5	588.5	587.7
170°	592.7	593.4	594.0	593.9	593.1	592.2	591.4	590.5
172.5°	594.7	595.4	596.1	596.0	595.1	594.3	593.4	592.6
175°	597.0	597.6	598.3	598.2	597.2	596.3	595.3	594.4
177.5°	597.2	597.7	598.3	598.2	597.5	596.8	596.1	595.5
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5

(END OF REPORT)