

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: P331503-940

Luminaire Tested: **S122DIW-S485D710U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331503-940  
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-S485D710U940-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 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: 4283.4 lumens  
Efficiency: N/A  
Efficacy: 113.9 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

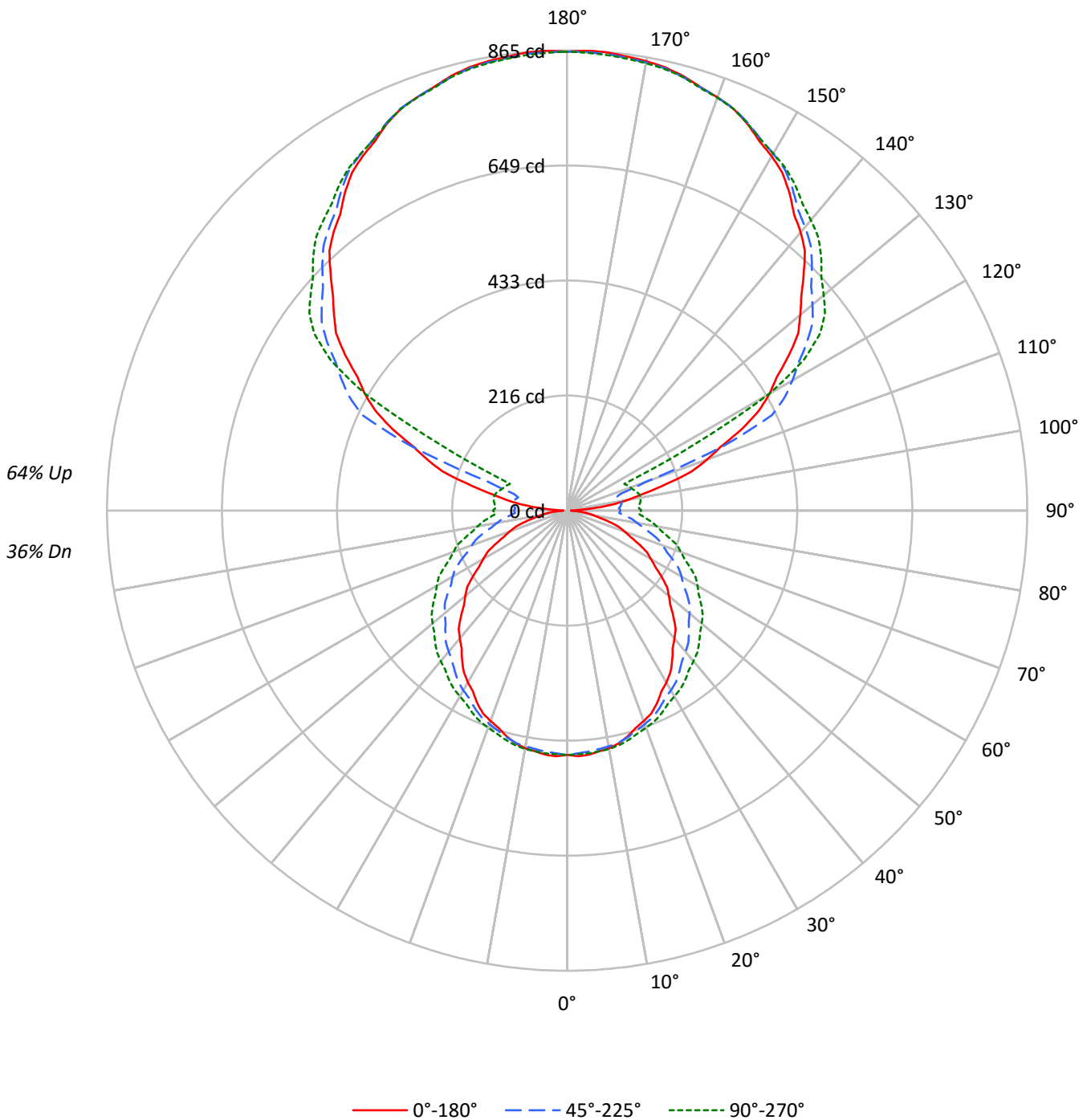
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331503-940

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### Luminous Intensity Polar Plot





TEST NUMBER: P331503-940

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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	50	30	10	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36				
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28				
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23				
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19				
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16				
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14				
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12				
7	55	42	34	29	49	38	31	26	31	26	22	24	20	18	18	15	13	10				
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	17	14	12	9				
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8				
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7419	7419	7419
5°	7455	7143	7115
10°	7408	6931	6854
15°	7306	6708	6577
20°	7177	6468	6312
25°	7050	6237	6072
30°	6870	5999	5829
35°	6689	5771	5659
40°	6498	5576	5488
45°	6317	5402	5343
50°	6123	5242	5199
55°	5916	5073	5052
60°	5666	4897	4897
65°	5405	4692	4714
70°	5117	4470	4516
75°	4741	4251	4334
80°	4149	4028	4148
85°	3591	3837	4006



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.5	1.0
10°-20°	124.9	2.9
20°-30°	189.2	4.4
30°-40°	230.5	5.4
40°-50°	247.9	5.8
50°-60°	240.8	5.6
60°-70°	210.2	4.9
70°-80°	161.8	3.8
80°-90°	110.7	2.6
90°-100°	103.6	2.4
100°-110°	160.2	3.7
110°-120°	318.2	7.4
120°-130°	485.8	11.3
130°-140°	503.7	11.8
140°-150°	461.8	10.8
150°-160°	370.1	8.6
160°-170°	238.5	5.6
170°-180°	82.1	1.9
0°-30°	357.6	8.3
0°-40°	588.1	13.7
0°-60°	1076.8	25.1
0°-90°	1559.6	36.4
90°-120°	582.0	13.6
90°-150°	2033.2	47.5
90°-180°	2724.0	63.6
0°-180°	4283.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	460	460	460	460	460	
5°	461	459	455	459	458	44
15°	440	441	441	446	446	124
25°	400	404	410	418	420	184
35°	344	356	368	382	388	215
45°	282	301	324	344	351	218
55°	216	241	275	298	308	193
65°	148	181	220	246	256	147
75°	82	119	162	189	199	87
85°	24	65	108	135	145	26
90°	7	53	100	129	139	6
95°	46	58	101	128	137	54
105°	193	222	95	124	135	207
115°	362	381	425	169	118	356
125°	509	518	550	572	580	454
135°	629	639	651	670	675	486
145°	728	728	738	746	747	456
155°	802	797	804	807	803	369
165°	845	842	843	847	843	239
175°	865	860	862	865	860	82
180°	863	863	863	863	863	



TEST NUMBER: P331503-940

CATALOG NUMBER: S122DIW-S485D710U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	462.2	461.8	461.5	461.1	460.7	460.1	459.3	458.5	457.7	456.8	457.4
5°	460.8	460.4	459.9	459.5	459.1	458.4	457.5	456.6	455.8	454.9	455.8
7.5°	456.7	456.4	456.1	455.8	455.6	455.0	454.3	453.7	453.0	452.3	453.3
10°	453.5	453.3	452.9	452.6	452.4	452.0	451.6	451.1	450.7	450.2	451.4
12.5°	448.2	448.3	448.4	448.4	448.4	448.3	448.0	447.6	447.3	447.0	448.2
15°	439.5	439.8	440.1	440.4	440.7	440.9	440.9	440.9	440.9	440.9	442.2
17.5°	428.4	429.0	429.6	430.3	430.9	431.4	431.9	432.3	432.8	433.3	434.6
20°	420.9	421.6	422.4	423.1	423.8	424.5	425.1	425.7	426.3	426.9	428.5
22.5°	412.9	413.8	414.6	415.4	416.3	417.1	418.0	418.8	419.6	420.5	422.1
25°	399.6	400.6	401.6	402.7	403.7	404.9	406.3	407.6	408.9	410.2	412.0
27.5°	383.6	385.3	387.0	388.7	390.3	392.0	393.5	395.1	396.6	398.2	400.5
30°	372.9	374.9	376.7	378.7	380.7	382.5	384.5	386.4	388.3	390.2	392.6
32.5°	361.2	363.4	365.5	367.7	369.9	372.1	374.3	376.7	378.9	381.2	383.9
35°	344.3	346.8	349.4	351.9	354.4	357.0	359.8	362.7	365.4	368.3	371.5
37.5°	325.9	328.9	331.7	334.7	337.5	340.8	344.5	348.0	351.7	355.3	359.0
40°	313.7	316.9	320.2	323.4	326.7	330.3	334.3	338.3	342.3	346.3	350.2
42.5°	301.9	305.2	308.4	311.7	315.0	318.9	323.5	328.1	332.7	337.2	341.4
45°	282.4	286.3	290.3	294.4	298.4	302.9	308.1	313.3	318.5	323.7	328.2
47.5°	263.1	267.4	271.8	276.1	280.4	285.7	291.8	297.8	303.9	310.0	314.8
50°	249.8	254.3	259.0	263.5	268.0	273.7	280.4	287.0	293.7	300.3	305.4
52.5°	236.9	241.7	246.6	251.5	256.3	262.2	269.2	276.2	283.2	290.3	295.3
55°	216.4	221.8	227.1	232.4	237.7	244.2	252.0	259.7	267.3	275.0	280.4
57.5°	196.2	202.2	208.2	214.2	220.3	227.1	235.0	242.8	250.7	258.5	264.3
60°	181.8	188.2	194.6	200.9	207.2	214.6	223.1	231.5	240.0	248.4	254.0
62.5°	169.0	175.6	182.3	188.9	195.5	203.0	211.3	219.8	228.3	236.7	242.6
65°	147.8	155.1	162.4	169.6	176.8	184.9	193.6	202.3	211.1	219.8	225.9
67.5°	128.4	136.0	143.6	151.1	158.7	166.9	175.9	184.9	193.8	202.7	208.8
70°	114.6	122.3	129.9	137.6	145.3	153.7	162.9	172.1	181.3	190.5	196.8
72.5°	101.7	109.7	117.6	125.6	133.5	142.1	151.4	160.7	170.0	179.2	185.6
75°	81.9	90.2	98.4	106.7	115.0	123.9	133.4	142.9	152.4	161.8	168.2
77.5°	62.8	71.4	80.1	88.7	97.5	106.6	116.2	125.8	135.5	145.1	151.4
80°	49.9	58.9	68.0	77.0	86.1	95.4	105.0	114.6	124.2	133.8	140.1
82.5°	39.3	48.2	57.1	66.0	74.9	84.3	94.0	103.7	113.4	123.2	129.4
85°	24.0	33.2	42.4	51.5	60.6	70.0	79.5	88.9	98.4	107.9	114.1
87.5°	13.2	22.3	31.4	40.6	49.7	59.1	68.8	78.5	88.2	97.8	104.1
90°	7.3	17.4	27.5	37.6	47.7	58.1	68.7	79.3	89.8	100.4	107.0
92.5°	18.7	26.6	34.4	42.3	50.1	58.9	68.6	78.3	87.9	97.6	103.8
95°	45.9	48.2	50.6	53.1	55.4	61.5	71.3	81.2	91.0	100.9	107.3
97.5°	85.2	78.5	71.8	65.0	58.3	60.4	71.2	81.9	92.6	103.4	109.5
100°	115.1	101.7	88.1	74.5	61.0	59.6	70.3	80.9	91.5	102.2	108.8
102.5°	147.6	148.6	149.5	150.5	151.5	146.2	134.5	122.8	111.1	99.4	106.2
105°	193.1	201.5	210.0	218.5	226.9	216.1	185.9	155.7	125.6	95.3	102.1
107.5°	245.8	252.5	259.4	266.2	273.0	257.3	219.3	181.2	143.2	105.1	108.5
110°	279.2	285.1	291.0	296.9	302.7	289.2	256.4	223.6	190.7	157.8	148.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	311.2	316.2	321.3	326.4	331.4	332.4	329.5	326.5	323.4	320.4	274.6
115°	361.6	365.6	369.6	373.5	377.6	384.6	394.8	404.8	415.0	425.1	365.3
117.5°	406.0	409.7	413.4	417.1	420.8	427.0	435.5	444.0	452.5	461.1	450.0
120°	439.0	441.7	444.3	447.0	449.7	455.2	463.6	472.1	480.5	488.8	494.7
122.5°	466.9	469.4	471.8	474.2	476.6	482.0	490.3	498.6	506.8	515.1	520.1
125°	508.8	510.7	512.5	514.2	516.0	520.7	528.0	535.4	542.8	550.1	555.1
127.5°	547.4	549.3	551.1	552.9	554.8	558.7	564.5	570.2	576.0	581.8	586.8
130°	571.9	574.0	576.0	578.1	580.1	583.5	588.2	592.8	597.4	602.1	607.2
132.5°	596.8	598.6	600.3	602.1	603.8	606.6	610.6	614.5	618.4	622.3	627.1
135°	628.7	630.9	633.1	635.3	637.6	640.0	642.7	645.5	648.2	650.9	655.4
137.5°	661.5	663.0	664.5	666.1	667.6	669.4	671.5	673.5	675.6	677.6	681.7
140°	683.0	683.9	684.9	685.8	686.8	688.2	690.0	691.9	693.7	695.5	699.1
142.5°	701.0	701.8	702.7	703.5	704.4	705.7	707.5	709.3	711.1	712.9	716.0
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	740.3
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.1
150°	769.1	768.1	767.1	766.2	765.2	765.8	768.0	770.3	772.5	774.7	775.5
152.5°	782.6	781.5	780.4	779.3	778.2	778.7	780.9	782.9	785.1	787.2	788.0
155°	802.2	800.9	799.7	798.4	797.2	797.4	799.1	800.7	802.4	804.1	804.9
157.5°	817.5	816.5	815.4	814.3	813.3	813.3	814.5	815.6	816.8	818.0	818.9
160°	826.5	825.6	824.8	824.0	823.1	823.1	824.0	824.8	825.6	826.5	827.3
162.5°	834.5	833.7	832.9	832.0	831.2	831.1	831.8	832.6	833.3	834.0	834.9
165°	845.3	844.4	843.6	842.8	841.9	841.7	842.1	842.5	842.9	843.4	844.4
167.5°	853.2	852.4	851.6	850.7	849.9	849.7	850.1	850.4	850.9	851.2	852.2
170°	857.7	856.8	856.0	855.2	854.3	854.1	854.3	854.7	855.0	855.2	856.2
172.5°	860.7	859.9	859.1	858.2	857.4	857.1	857.4	857.6	857.9	858.2	859.2
175°	864.6	863.6	862.6	861.7	860.7	860.3	860.6	860.9	861.2	861.5	862.5
177.5°	865.2	864.4	863.6	862.9	862.1	861.7	861.8	862.0	862.1	862.2	863.0
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	458.1	458.6	459.2	459.4	459.1	459.0	458.7	458.4
5°	456.6	457.5	458.4	458.8	458.6	458.5	458.3	458.2
7.5°	454.4	455.5	456.6	457.0	456.9	456.7	456.6	456.5
10°	452.5	453.7	455.0	455.5	455.3	455.1	455.0	454.9
12.5°	449.3	450.6	451.7	452.3	452.1	451.9	451.8	451.7
15°	443.5	444.9	446.2	446.7	446.7	446.5	446.3	446.2
17.5°	436.0	437.5	438.8	439.5	439.5	439.5	439.5	439.5
20°	430.2	431.8	433.4	434.2	434.2	434.2	434.2	434.2
22.5°	423.7	425.3	427.0	427.9	428.2	428.4	428.6	428.9
25°	413.8	415.5	417.3	418.5	418.9	419.4	419.8	420.3
27.5°	402.8	405.0	407.2	408.5	408.8	409.2	409.5	409.8
30°	395.0	397.3	399.8	401.1	401.5	402.0	402.4	402.9
32.5°	386.6	389.3	392.1	393.9	394.7	395.5	396.3	397.1
35°	374.8	378.1	381.3	383.4	384.5	385.5	386.6	387.6
37.5°	362.6	366.2	369.8	372.1	373.3	374.3	375.4	376.6
40°	354.0	357.8	361.7	364.3	365.6	366.9	368.3	369.6
42.5°	345.6	349.8	354.0	356.9	358.1	359.4	360.8	362.1
45°	332.9	337.4	342.0	345.0	346.5	348.0	349.5	351.0
47.5°	319.5	324.3	329.1	332.3	333.9	335.6	337.2	338.9
50°	310.4	315.4	320.5	323.8	325.5	327.1	328.7	330.3
52.5°	300.5	305.7	310.9	314.2	316.0	317.8	319.5	321.3
55°	285.7	291.1	296.3	300.0	301.9	303.8	305.8	307.6
57.5°	270.0	275.7	281.5	285.3	287.3	289.3	291.2	293.2
60°	259.7	265.3	270.9	274.7	276.8	278.9	281.0	283.0
62.5°	248.6	254.6	260.6	264.6	266.5	268.5	270.5	272.4
65°	231.9	238.0	244.1	248.1	249.9	251.9	253.8	255.7
67.5°	215.0	221.1	227.2	231.3	233.3	235.3	237.4	239.3
70°	203.2	209.6	215.9	220.0	221.8	223.6	225.3	227.1
72.5°	191.8	198.0	204.3	208.5	210.5	212.7	214.8	217.0
75°	174.6	180.9	187.3	191.5	193.3	195.3	197.2	199.1
77.5°	157.7	164.1	170.4	174.6	176.6	178.7	180.8	182.9
80°	146.3	152.5	158.7	162.8	165.0	167.0	169.1	171.1
82.5°	135.6	141.9	148.0	152.1	154.1	156.0	158.0	160.0
85°	120.3	126.5	132.8	136.9	138.9	141.1	143.1	145.2
87.5°	110.2	116.4	122.6	126.6	128.6	130.5	132.5	134.5
90°	113.6	120.2	126.8	131.2	133.2	135.3	137.3	139.4
92.5°	109.9	116.1	122.3	126.3	128.2	130.2	132.2	134.0
95°	113.6	119.8	126.2	130.2	131.8	133.5	135.1	136.7
97.5°	115.5	121.5	127.6	131.5	133.5	135.4	137.2	139.2
100°	115.4	121.9	128.5	132.8	134.6	136.6	138.5	140.4
102.5°	113.1	119.8	126.6	131.1	133.0	135.1	137.1	139.1
105°	108.8	115.5	122.2	126.6	128.8	131.0	133.1	135.4
107.5°	112.0	115.4	118.8	121.6	123.8	126.0	128.1	130.4
110°	139.6	130.5	121.3	117.8	120.0	122.2	124.4	126.5





TEST NUMBER: P331503-940

CATALOG NUMBER: S122DIW-S485D710U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.7	182.8	137.0	115.0	117.1	119.2	121.3	123.3
115°	305.5	245.8	185.9	151.9	143.6	135.2	126.8	118.4
117.5°	438.8	427.7	416.5	395.2	363.9	332.6	301.3	270.0
120°	500.5	506.3	512.1	506.5	489.4	472.3	455.1	438.1
122.5°	525.2	530.2	535.2	536.6	534.4	532.2	529.9	527.6
125°	560.1	565.0	570.0	573.4	575.1	576.8	578.6	580.3
127.5°	591.9	597.1	602.2	605.4	606.7	608.1	609.5	610.9
130°	612.2	617.3	622.4	625.4	626.5	627.5	628.6	629.6
132.5°	631.8	636.6	641.3	644.2	645.2	646.3	647.3	648.4
135°	660.0	664.4	668.9	671.6	672.5	673.4	674.3	675.2
137.5°	685.8	689.9	694.0	696.2	696.8	697.3	697.9	698.4
140°	702.8	706.3	710.0	711.9	712.0	712.2	712.5	712.7
142.5°	719.0	722.0	725.1	726.6	726.7	726.7	726.8	726.9
145°	742.2	744.0	745.9	746.9	746.9	747.0	747.0	747.1
147.5°	762.9	763.8	764.6	764.9	764.6	764.4	764.2	763.9
150°	776.3	777.2	778.0	778.1	777.4	776.7	776.0	775.3
152.5°	788.8	789.7	790.5	790.5	789.5	788.6	787.7	786.8
155°	805.7	806.6	807.4	807.2	806.1	805.0	803.9	802.8
157.5°	819.9	820.8	821.8	821.7	820.6	819.6	818.5	817.3
160°	828.1	829.0	829.8	829.7	828.8	827.8	826.9	825.9
162.5°	835.9	836.8	837.8	837.7	836.4	835.3	834.0	832.9
165°	845.3	846.2	847.2	847.2	846.2	845.3	844.4	843.4
167.5°	853.2	854.2	855.1	855.0	853.7	852.5	851.2	850.0
170°	857.2	858.1	859.1	859.0	857.7	856.5	855.2	854.0
172.5°	860.1	861.1	862.1	861.9	860.7	859.4	858.2	856.9
175°	863.4	864.3	865.3	865.1	863.7	862.4	860.9	859.6
177.5°	863.8	864.5	865.3	865.2	864.2	863.2	862.2	861.2
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7

(END OF REPORT)