

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: P331503-935

Luminaire Tested: **S122DIW-S485D710U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331503-935  
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-S485D710U935-4F0-1E-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: 4135.9 lumens  
Efficiency: N/A  
Efficacy: 110.0 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

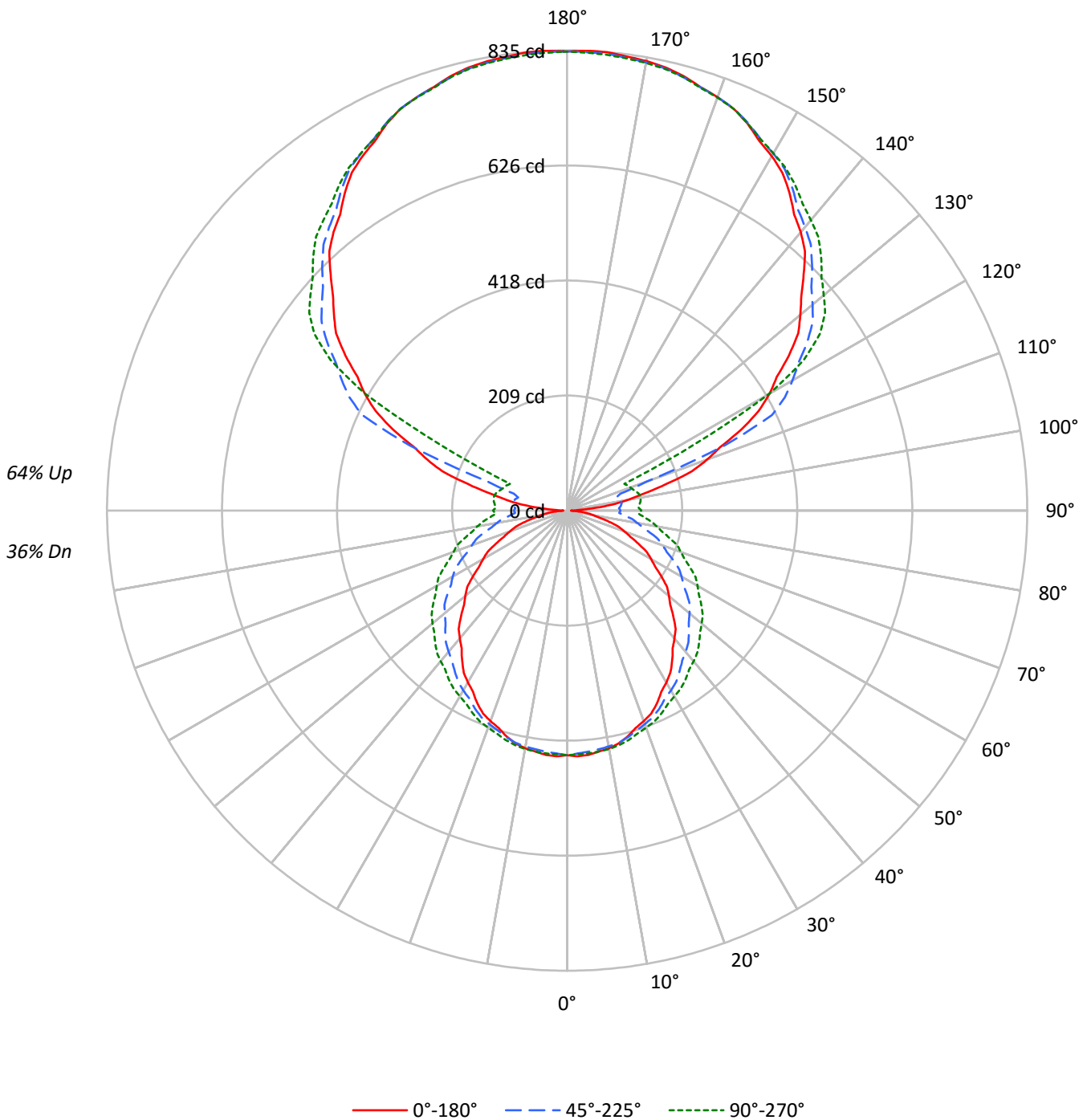
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-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	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°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.0	1.0
10°-20°	120.6	2.9
20°-30°	182.7	4.4
30°-40°	222.5	5.4
40°-50°	239.4	5.8
50°-60°	232.5	5.6
60°-70°	203.0	4.9
70°-80°	156.3	3.8
80°-90°	106.9	2.6
90°-100°	100.0	2.4
100°-110°	154.7	3.7
110°-120°	307.2	7.4
120°-130°	469.1	11.3
130°-140°	486.3	11.8
140°-150°	445.9	10.8
150°-160°	357.3	8.6
160°-170°	230.3	5.6
170°-180°	79.3	1.9
0°-30°	345.3	8.3
0°-40°	567.8	13.7
0°-60°	1039.7	25.1
0°-90°	1505.9	36.4
90°-120°	561.9	13.6
90°-150°	1963.2	47.5
90°-180°	2630.0	63.6
0°-180°	4135.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	7	51	97	125	135	6
95°	44	56	98	124	132	52
105°	186	214	92	120	131	199
115°	349	368	410	163	114	343
125°	491	500	531	552	560	438
135°	607	617	628	647	652	469
145°	703	703	713	721	721	440
155°	775	770	776	779	775	357
165°	816	813	814	818	814	230
175°	835	831	832	835	830	79
180°	833	833	833	833	833	



TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.7	21.5	30.3	39.2	48.0	57.1	66.4	75.8	85.2	94.5	100.5
90°	7.1	16.8	26.5	36.3	46.1	56.1	66.3	76.5	86.7	96.9	103.3
92.5°	18.1	25.7	33.2	40.8	48.4	56.9	66.2	75.6	84.9	94.2	100.2
95°	44.3	46.6	48.9	51.2	53.5	59.4	68.9	78.4	87.9	97.5	103.6
97.5°	82.2	75.8	69.3	62.8	56.3	58.3	68.7	79.0	89.5	99.9	105.7
100°	111.2	98.2	85.1	72.0	58.9	57.5	67.8	78.1	88.3	98.7	105.0
102.5°	142.5	143.4	144.4	145.3	146.3	141.1	129.8	118.6	107.3	96.0	102.5
105°	186.5	194.6	202.8	210.9	219.1	208.6	179.5	150.3	121.2	92.0	98.6
107.5°	237.3	243.8	250.5	257.0	263.6	248.5	211.7	175.0	138.3	101.5	104.8
110°	269.6	275.3	280.9	286.6	292.3	279.2	247.5	215.9	184.2	152.4	143.6



TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	300.5	305.3	310.2	315.1	320.0	321.0	318.1	315.2	312.3	309.4	265.1
115°	349.1	353.0	356.9	360.7	364.5	371.3	381.2	390.9	400.7	410.4	352.8
117.5°	392.0	395.6	399.2	402.8	406.3	412.2	420.5	428.7	437.0	445.2	434.5
120°	423.9	426.5	429.0	431.6	434.2	439.5	447.6	455.8	463.9	472.0	477.7
122.5°	450.8	453.2	455.6	457.9	460.2	465.4	473.4	481.4	489.4	497.4	502.2
125°	491.3	493.1	494.8	496.5	498.3	502.7	509.8	516.9	524.1	531.2	536.0
127.5°	528.6	530.4	532.1	533.9	535.7	539.4	545.0	550.6	556.2	561.7	566.6
130°	552.2	554.2	556.2	558.2	560.2	563.4	567.9	572.4	576.9	581.3	586.3
132.5°	576.3	578.0	579.6	581.3	583.0	585.7	589.5	593.3	597.1	600.9	605.5
135°	607.0	609.2	611.3	613.5	615.6	617.9	620.6	623.3	625.9	628.5	632.8
137.5°	638.7	640.2	641.6	643.2	644.6	646.4	648.3	650.3	652.3	654.3	658.2
140°	659.4	660.4	661.3	662.2	663.1	664.5	666.2	668.0	669.8	671.6	675.0
142.5°	676.8	677.6	678.5	679.2	680.1	681.4	683.1	684.8	686.6	688.4	691.3
145°	703.4	703.3	703.2	703.0	702.8	704.0	706.2	708.5	710.8	713.1	714.8
147.5°	727.1	726.7	726.2	725.7	725.1	726.0	728.2	730.5	732.7	734.9	735.8
150°	742.6	741.7	740.7	739.8	738.8	739.4	741.6	743.7	745.9	748.0	748.8
152.5°	755.6	754.6	753.5	752.4	751.4	751.9	754.0	756.0	758.0	760.1	760.9
155°	774.6	773.4	772.1	770.9	769.7	769.9	771.5	773.1	774.7	776.4	777.1
157.5°	789.4	788.3	787.3	786.3	785.3	785.3	786.4	787.6	788.7	789.8	790.7
160°	798.1	797.2	796.4	795.7	794.8	794.8	795.7	796.4	797.2	798.1	798.8
162.5°	805.7	804.9	804.2	803.3	802.5	802.5	803.1	803.9	804.6	805.3	806.2
165°	816.1	815.3	814.5	813.7	812.9	812.7	813.1	813.5	813.9	814.3	815.3
167.5°	823.8	823.0	822.3	821.4	820.6	820.4	820.8	821.1	821.6	821.9	822.9
170°	828.2	827.3	826.6	825.8	824.9	824.7	824.9	825.3	825.5	825.8	826.7
172.5°	831.0	830.3	829.5	828.6	827.9	827.6	827.9	828.1	828.4	828.6	829.6
175°	834.8	833.9	832.9	832.0	831.0	830.7	831.0	831.3	831.6	831.8	832.8
177.5°	835.4	834.7	833.9	833.2	832.4	832.1	832.2	832.3	832.4	832.5	833.3
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0



TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	106.4	112.4	118.4	122.3	124.2	126.1	127.9	129.8
90°	109.7	116.1	122.4	126.7	128.6	130.6	132.6	134.6
92.5°	106.2	112.1	118.0	121.9	123.8	125.7	127.6	129.4
95°	109.7	115.7	121.8	125.7	127.3	128.9	130.4	132.0
97.5°	111.5	117.4	123.2	127.0	128.9	130.7	132.5	134.4
100°	111.4	117.7	124.1	128.2	130.0	131.9	133.7	135.5
102.5°	109.2	115.7	122.3	126.6	128.5	130.4	132.4	134.3
105°	105.0	111.5	118.0	122.3	124.3	126.5	128.5	130.7
107.5°	108.1	111.4	114.7	117.4	119.5	121.7	123.7	125.9
110°	134.7	126.0	117.1	113.7	115.9	118.0	120.1	122.2





TEST NUMBER: P331503-935

CATALOG NUMBER: S122DIW-S485D710U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	220.8	176.5	132.2	111.1	113.0	115.1	117.1	119.1
115°	295.0	237.3	179.5	146.6	138.6	130.5	122.4	114.3
117.5°	423.7	412.9	402.2	381.6	351.4	321.2	290.9	260.7
120°	483.3	488.9	494.5	489.0	472.5	456.0	439.5	423.0
122.5°	507.1	512.0	516.8	518.1	516.0	513.8	511.6	509.5
125°	540.8	545.5	550.4	553.6	555.3	557.0	558.7	560.3
127.5°	571.5	576.5	581.4	584.5	585.8	587.2	588.5	589.9
130°	591.2	596.1	601.0	603.9	604.9	605.9	606.9	608.0
132.5°	610.0	614.7	619.2	622.0	623.0	624.1	625.0	626.0
135°	637.2	641.5	645.8	648.5	649.4	650.2	651.1	651.9
137.5°	662.2	666.2	670.1	672.3	672.8	673.3	673.8	674.3
140°	678.6	682.0	685.5	687.3	687.5	687.7	687.9	688.1
142.5°	694.2	697.2	700.1	701.5	701.6	701.7	701.8	701.9
145°	716.6	718.4	720.2	721.2	721.2	721.3	721.3	721.3
147.5°	736.6	737.4	738.2	738.6	738.3	738.0	737.9	737.6
150°	749.6	750.4	751.2	751.3	750.6	749.9	749.2	748.6
152.5°	761.6	762.5	763.3	763.3	762.3	761.5	760.6	759.7
155°	777.9	778.8	779.5	779.4	778.3	777.3	776.2	775.2
157.5°	791.7	792.6	793.5	793.4	792.4	791.3	790.3	789.2
160°	799.6	800.5	801.2	801.2	800.2	799.3	798.4	797.5
162.5°	807.1	808.0	808.9	808.8	807.6	806.5	805.3	804.2
165°	816.2	817.1	818.0	818.0	817.1	816.2	815.3	814.3
167.5°	823.8	824.8	825.6	825.5	824.3	823.1	821.9	820.7
170°	827.7	828.5	829.5	829.4	828.2	827.0	825.8	824.6
172.5°	830.5	831.5	832.4	832.2	831.0	829.8	828.6	827.4
175°	833.7	834.6	835.5	835.3	834.0	832.7	831.3	830.0
177.5°	834.1	834.7	835.5	835.4	834.5	833.4	832.5	831.6
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0

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