

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: P331512-930

Luminaire Tested: **S122DIW-S485D970U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331512-930
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-S485D970U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4351.2 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

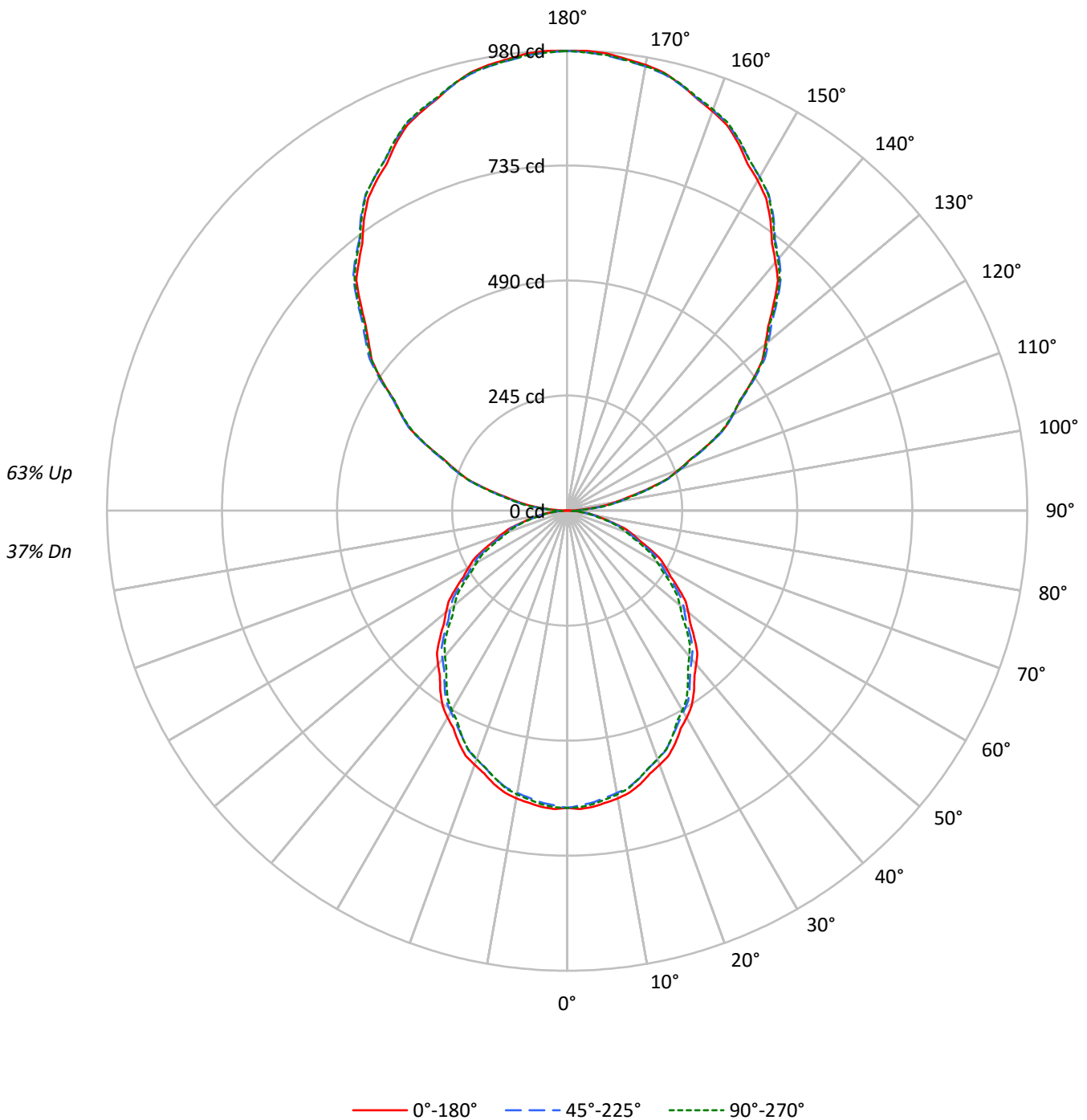
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

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	60	60	60	44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37	31
2	86	79	73	68	78	72	67	62	58	55	52	46	43	41	34	33	31	26
3	79	69	62	57	71	63	57	52	51	47	43	41	37	35	30	28	27	22
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	25	22	20	17
6	61	49	41	35	55	45	38	33	37	31	28	29	25	23	22	20	18	15
7	56	44	36	31	51	40	33	29	33	28	24	27	23	20	20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	12
9	48	36	29	24	44	33	27	22	28	23	19	22	19	16	17	15	13	10
10	45	33	26	22	41	31	24	20	25	21	17	21	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10224	10224	10224
5°	10263	10115	10175
10°	10203	10012	10063
15°	10076	9884	9872
20°	9897	9689	9677
25°	9720	9449	9449
30°	9491	9229	9148
35°	9278	8966	8834
40°	9010	8703	8534
45°	8745	8439	8229
50°	8457	8166	7877
55°	8158	7848	7561
60°	7824	7472	7195
65°	7465	7095	6770
70°	7010	6637	6326
75°	6382	6114	5964
80°	5662	5486	5207
85°	4613	4390	3946



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	1.4
10°-20°	167.6	3.9
20°-30°	246.3	5.7
30°-40°	286.1	6.6
40°-50°	285.8	6.6
50°-60°	249.2	5.7
60°-70°	184.3	4.2
70°-80°	104.4	2.4
80°-90°	32.0	0.7
90°-100°	62.0	1.4
100°-110°	192.6	4.4
110°-120°	329.2	7.6
120°-130°	432.9	9.9
130°-140°	485.9	11.2
140°-150°	476.4	10.9
150°-160°	399.6	9.2
160°-170°	265.0	6.1
170°-180°	92.6	2.1
0°-30°	473.4	10.9
0°-40°	759.4	17.5
0°-60°	1294.4	29.7
0°-90°	1615.0	37.1
90°-120°	583.8	13.4
90°-150°	1979.0	45.5
90°-180°	2736.0	62.9
0°-180°	4351.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	633	633	633	633	633	
5°	633	631	624	629	628	60
15°	603	599	591	593	591	170
25°	546	540	530	531	530	251
35°	471	464	455	451	448	294
45°	383	378	370	363	360	295
55°	290	286	279	272	269	259
65°	195	192	186	180	177	193
75°	102	101	98	95	96	109
85°	25	24	24	22	21	29
90°	1	11	29	27	28	3
95°	43	51	53	53	51	49
105°	178	180	182	183	183	188
115°	330	335	334	333	330	327
125°	481	488	486	483	482	429
135°	622	630	632	632	629	480
145°	755	760	766	766	763	471
155°	863	865	868	872	870	397
165°	939	938	938	943	940	265
175°	977	974	973	978	974	93
180°	978	978	978	978	978	



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2
2.5°	636.2	635.6	635.1	634.5	634.0	633.2	631.9	630.8	629.6	628.4	629.5
5°	633.2	632.7	632.2	631.6	631.1	630.1	628.6	627.1	625.6	624.1	625.2
7.5°	627.6	626.8	626.0	625.1	624.3	623.1	621.6	620.1	618.6	617.0	618.2
10°	622.3	621.3	620.4	619.5	618.5	617.2	615.6	614.0	612.4	610.7	611.8
12.5°	615.0	614.2	613.3	612.5	611.6	610.4	608.8	607.2	605.5	603.9	604.6
15°	602.8	602.0	601.2	600.4	599.6	598.3	596.5	594.8	593.0	591.3	591.7
17.5°	587.2	586.4	585.6	584.8	584.0	582.7	580.9	579.1	577.3	575.5	576.2
20°	576.0	575.2	574.4	573.6	572.7	571.4	569.5	567.6	565.7	563.9	564.3
22.5°	564.8	563.7	562.6	561.4	560.3	558.8	557.0	555.2	553.4	551.6	551.7
25°	545.6	544.5	543.4	542.3	541.3	539.6	537.3	534.9	532.6	530.4	530.6
27.5°	523.7	522.7	521.7	520.7	519.8	518.4	516.6	514.7	512.9	511.1	510.7
30°	509.1	507.9	506.9	505.8	504.7	503.1	501.1	499.1	497.1	495.0	494.6
32.5°	493.4	492.6	491.7	490.8	490.0	488.4	486.3	484.2	482.1	480.0	479.2
35°	470.7	469.3	468.0	466.6	465.3	463.5	461.4	459.2	457.0	454.9	454.0
37.5°	445.0	443.8	442.6	441.4	440.2	438.5	436.3	434.2	432.0	429.9	428.8
40°	427.5	426.3	425.3	424.2	423.1	421.5	419.3	417.2	415.0	412.9	411.6
42.5°	410.4	409.3	408.2	407.2	406.1	404.5	402.3	400.1	397.9	395.7	394.4
45°	383.0	382.0	381.1	380.2	379.2	377.7	375.7	373.7	371.6	369.6	368.1
47.5°	355.7	354.8	353.9	353.0	352.1	350.7	348.5	346.4	344.3	342.2	340.6
50°	336.7	336.1	335.3	334.7	334.0	332.7	330.8	329.0	327.0	325.1	323.3
52.5°	318.2	317.3	316.4	315.5	314.6	313.3	311.5	309.7	307.9	306.1	304.6
55°	289.8	289.0	288.2	287.4	286.6	285.4	283.7	282.1	280.5	278.8	277.3
57.5°	261.3	260.7	260.0	259.4	258.8	257.6	255.8	254.0	252.2	250.4	248.7
60°	242.3	241.8	241.2	240.7	240.2	239.0	237.1	235.1	233.3	231.4	229.9
62.5°	223.8	223.0	222.1	221.2	220.4	219.2	217.8	216.3	214.8	213.4	212.0
65°	195.4	194.6	193.8	193.0	192.2	191.1	189.8	188.4	187.0	185.7	184.5
67.5°	166.6	165.9	165.3	164.6	164.0	163.1	161.8	160.6	159.4	158.2	157.3
70°	148.5	148.1	147.5	146.9	146.4	145.5	144.3	143.1	141.9	140.6	139.7
72.5°	130.0	129.6	129.0	128.4	127.9	127.3	126.5	125.6	124.9	124.1	123.1
75°	102.3	102.0	101.7	101.5	101.2	100.8	100.0	99.4	98.7	98.0	97.2
77.5°	77.5	77.0	76.6	76.1	75.6	75.3	75.0	74.7	74.4	74.2	73.8
80°	60.9	60.7	60.7	60.5	60.3	60.2	59.8	59.6	59.4	59.0	58.6
82.5°	45.3	45.2	45.2	45.2	45.2	45.1	44.9	44.8	44.6	44.4	43.9
85°	24.9	24.9	24.7	24.5	24.5	24.3	24.1	24.1	23.9	23.7	23.3
87.5°	9.0	9.1	9.4	9.6	9.9	10.3	10.8	11.4	12.0	12.6	12.2
90°	0.8	3.0	5.2	7.4	9.6	12.7	16.8	20.8	24.9	28.9	28.5
92.5°	14.7	16.3	17.9	19.6	21.2	22.4	23.4	24.4	25.3	26.3	26.3
95°	43.0	44.8	46.6	48.4	50.3	51.4	51.8	52.1	52.5	52.8	52.8
97.5°	78.4	80.1	81.7	83.3	84.9	86.1	86.7	87.5	88.1	88.9	88.9
100°	104.8	106.3	107.8	109.3	110.7	111.8	112.3	112.8	113.4	114.0	114.0
102.5°	132.6	133.8	134.9	136.2	137.3	138.3	138.9	139.7	140.3	141.0	141.2
105°	177.6	178.1	178.6	179.2	179.8	180.2	180.6	180.9	181.3	181.6	182.1
107.5°	222.8	223.6	224.4	225.2	226.0	226.4	226.4	226.4	226.4	226.4	226.6
110°	251.8	253.0	254.0	255.2	256.2	256.8	256.8	256.8	256.8	256.8	256.8



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	283.6	284.7	285.8	286.9	288.0	288.5	288.3	288.1	288.0	287.9	287.4
115°	330.3	331.4	332.5	333.6	334.7	335.1	334.7	334.4	333.9	333.6	333.5
117.5°	376.9	378.4	379.8	381.3	382.8	382.9	382.0	380.9	379.9	378.9	378.5
120°	408.0	409.4	410.9	412.4	413.8	413.8	412.4	410.9	409.4	408.0	408.0
122.5°	436.3	438.1	439.9	441.6	443.4	443.8	442.7	441.7	440.7	439.6	439.2
125°	480.6	482.2	483.9	485.6	487.2	487.8	487.2	486.7	486.1	485.6	485.0
127.5°	523.7	525.8	527.9	530.0	532.1	532.8	532.1	531.5	530.8	530.2	529.5
130°	550.8	553.2	555.5	558.0	560.4	561.3	561.0	560.6	560.3	559.9	559.5
132.5°	581.1	583.1	585.1	587.0	589.0	590.0	590.0	590.1	590.2	590.3	589.5
135°	621.8	623.9	625.8	627.9	629.9	631.0	631.4	631.8	632.2	632.5	632.3
137.5°	664.6	666.3	667.9	669.5	671.2	672.3	672.7	673.2	673.7	674.2	674.0
140°	690.3	692.0	693.7	695.3	696.9	698.2	699.2	700.1	701.0	701.9	701.9
142.5°	716.8	718.4	720.1	721.7	723.4	724.6	725.1	725.8	726.4	727.0	727.2
145°	754.7	756.0	757.3	758.6	759.9	761.1	762.2	763.3	764.4	765.5	765.6
147.5°	788.6	790.2	791.7	793.2	794.8	795.9	796.6	797.4	798.1	798.8	799.2
150°	811.7	812.9	813.9	815.1	816.1	817.1	817.8	818.6	819.3	820.0	820.5
152.5°	832.3	833.3	834.5	835.5	836.7	837.6	838.5	839.4	840.2	841.1	841.8
155°	862.9	863.5	864.1	864.6	865.1	865.7	866.3	866.8	867.3	867.9	868.8
157.5°	889.2	889.6	889.9	890.3	890.6	891.0	891.4	891.7	892.0	892.3	893.6
160°	905.1	905.4	905.8	906.1	906.5	906.8	907.0	907.2	907.3	907.5	908.7
162.5°	919.6	919.7	919.7	919.8	919.9	920.0	920.2	920.4	920.6	920.7	922.0
165°	938.9	938.7	938.6	938.3	938.2	938.1	938.1	938.1	938.1	938.1	939.4
167.5°	955.1	954.6	954.0	953.4	952.9	952.6	952.6	952.5	952.5	952.4	953.7
170°	963.7	963.1	962.6	962.1	961.5	961.2	960.9	960.7	960.6	960.4	961.6
172.5°	969.6	969.1	968.5	968.0	967.4	967.0	966.9	966.7	966.5	966.3	967.6
175°	976.9	976.3	975.8	975.3	974.7	974.2	973.9	973.5	973.1	972.7	974.0
177.5°	979.9	979.4	979.0	978.5	978.1	977.7	977.5	977.1	976.9	976.6	977.5
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2
2.5°	630.6	631.6	632.7	633.2	632.9	632.7	632.5	632.3
5°	626.3	627.4	628.4	628.8	628.6	628.3	628.0	627.8
7.5°	619.2	620.3	621.4	621.7	621.5	621.2	620.9	620.6
10°	612.9	614.0	615.1	615.4	615.0	614.6	614.2	613.8
12.5°	605.4	606.2	606.9	607.2	606.8	606.6	606.3	605.9
15°	592.3	592.9	593.4	593.3	592.6	592.0	591.3	590.6
17.5°	576.7	577.4	578.0	578.0	577.3	576.7	576.1	575.4
20°	564.7	565.1	565.5	565.4	564.8	564.3	563.8	563.2
22.5°	551.8	551.9	552.0	551.9	551.5	551.2	550.9	550.6
25°	530.9	531.2	531.4	531.4	531.2	530.9	530.6	530.4
27.5°	510.3	509.9	509.5	509.0	508.3	507.7	507.0	506.4
30°	494.2	493.8	493.4	492.9	492.4	491.9	491.3	490.7
32.5°	478.5	477.8	477.0	476.4	475.8	475.3	474.7	474.2
35°	453.2	452.4	451.6	450.9	450.2	449.5	448.8	448.2
37.5°	427.9	426.9	425.9	425.0	424.4	423.7	423.1	422.5
40°	410.4	409.2	408.0	407.1	406.5	406.0	405.4	404.9
42.5°	393.1	391.8	390.4	389.5	388.7	387.9	387.2	386.4
45°	366.6	365.2	363.6	362.6	362.1	361.6	361.0	360.4
47.5°	339.1	337.5	335.9	334.8	333.9	333.2	332.4	331.6
50°	321.4	319.4	317.6	316.3	315.6	315.0	314.2	313.6
52.5°	303.0	301.4	299.9	298.6	297.7	296.9	296.0	295.1
55°	275.7	274.0	272.4	271.3	270.5	269.9	269.2	268.6
57.5°	247.2	245.6	244.0	243.0	242.4	241.9	241.4	240.8
60°	228.4	226.9	225.4	224.5	224.0	223.6	223.2	222.8
62.5°	210.6	209.2	207.8	206.9	206.4	205.9	205.4	204.8
65°	183.3	182.1	180.8	179.9	179.2	178.6	177.9	177.2
67.5°	156.3	155.3	154.4	153.7	153.1	152.5	152.1	151.5
70°	138.8	137.8	136.9	136.2	135.6	135.0	134.5	134.0
72.5°	122.2	121.2	120.3	119.6	119.2	118.7	118.3	117.9
75°	96.4	95.6	94.8	94.5	94.8	95.1	95.3	95.6
77.5°	73.4	73.0	72.6	72.2	71.7	71.4	71.0	70.6
80°	58.2	57.8	57.5	57.1	56.8	56.6	56.3	56.0
82.5°	43.5	42.9	42.4	42.1	42.1	42.0	41.9	41.9
85°	22.9	22.5	22.1	21.9	21.7	21.6	21.4	21.3
87.5°	11.8	11.4	11.0	10.8	10.7	10.6	10.5	10.5
90°	28.1	27.8	27.4	27.3	27.6	27.7	27.9	28.0
92.5°	26.4	26.5	26.6	26.6	26.7	26.7	26.7	26.7
95°	52.8	52.8	52.8	52.7	52.3	51.9	51.5	51.2
97.5°	88.9	88.9	88.9	88.9	88.8	88.8	88.7	88.7
100°	114.0	114.0	114.0	113.9	113.7	113.5	113.3	113.2
102.5°	141.4	141.5	141.6	141.6	141.5	141.2	141.0	140.9
105°	182.4	182.8	183.1	183.4	183.4	183.4	183.4	183.4
107.5°	226.7	226.9	227.0	226.7	225.8	224.9	224.1	223.3
110°	256.8	256.8	256.8	256.6	256.0	255.4	254.9	254.4



TEST NUMBER: P331512-930

CATALOG NUMBER: S122DIW-S485D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	287.0	286.6	286.1	285.7	285.3	284.9	284.5	284.1
115°	333.2	333.0	332.9	332.5	332.0	331.4	330.8	330.3
117.5°	378.0	377.6	377.1	376.6	376.1	375.5	375.0	374.4
120°	408.0	408.0	408.0	407.6	407.1	406.6	406.0	405.4
122.5°	438.8	438.3	437.9	437.5	437.1	436.7	436.3	435.9
125°	484.5	483.9	483.4	483.0	482.8	482.7	482.4	482.2
127.5°	528.8	528.2	527.5	526.8	526.3	525.7	525.1	524.6
130°	559.1	558.8	558.4	557.8	557.1	556.4	555.6	554.9
132.5°	588.6	587.8	587.0	586.4	585.8	585.1	584.6	584.0
135°	632.2	632.0	631.8	631.4	630.9	630.3	629.8	629.2
137.5°	673.8	673.8	673.6	673.1	672.4	671.6	670.9	670.2
140°	701.9	701.9	701.9	701.6	700.8	700.1	699.4	698.6
142.5°	727.3	727.5	727.6	727.3	726.6	725.9	725.1	724.4
145°	765.9	766.1	766.2	766.0	765.2	764.5	763.8	763.0
147.5°	799.6	800.1	800.5	800.3	799.6	798.9	798.3	797.5
150°	821.1	821.7	822.2	822.2	821.7	821.1	820.5	820.0
152.5°	842.5	843.3	843.9	843.9	843.3	842.5	841.8	841.1
155°	869.8	870.7	871.6	871.7	871.2	870.7	870.1	869.5
157.5°	894.9	896.1	897.3	897.5	896.7	895.8	894.9	894.0
160°	909.7	910.9	911.9	912.2	911.4	910.7	910.0	909.2
162.5°	923.2	924.5	925.8	925.9	925.0	924.1	923.2	922.4
165°	940.7	941.9	943.2	943.4	942.5	941.6	940.7	939.7
167.5°	955.0	956.3	957.6	957.7	956.8	955.9	954.9	954.0
170°	963.0	964.3	965.6	965.6	964.5	963.4	962.3	961.2
172.5°	968.9	970.2	971.4	971.6	970.5	969.4	968.2	967.2
175°	975.3	976.6	977.9	978.0	976.9	975.8	974.7	973.6
177.5°	978.4	979.2	980.1	980.1	979.2	978.4	977.5	976.6
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5

(END OF REPORT)