

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: P332550-930

Luminaire Tested: **S124DIP-S575D590U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332550-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S575D590U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3957.0 lumens
Efficiency: N/A
Efficacy: 120.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

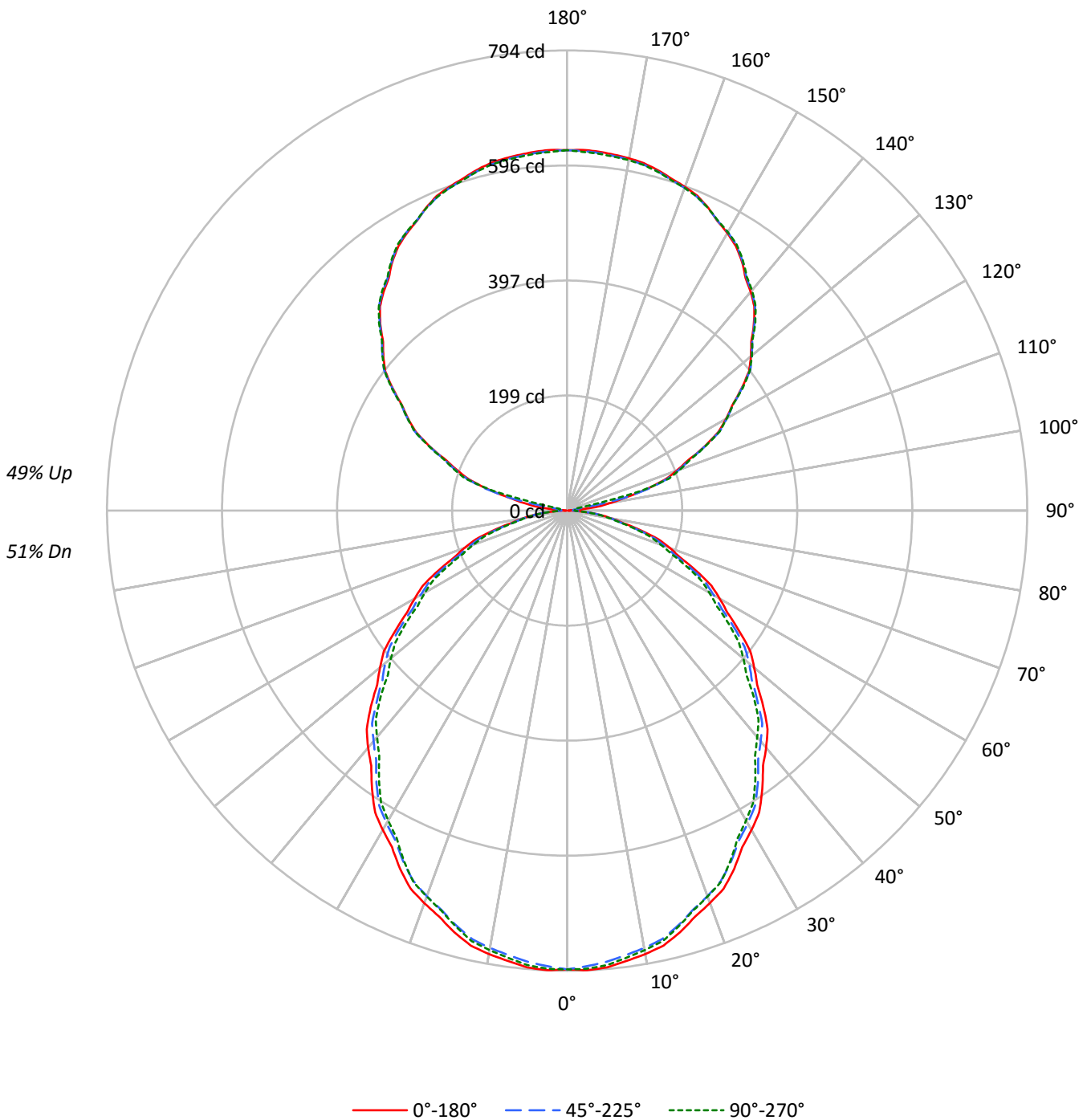
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	74	71	69	62	60	58	51	49	48	43
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	45	43	41	36
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	39	37	35	31
4	74	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26
5	68	57	49	43	63	53	45	40	45	40	35	38	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	47	36	29	24	31	25	22	27	22	19	22	19	16	14
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6391	6391	6391
5°	6412	6334	6380
10°	6370	6283	6314
15°	6294	6193	6209
20°	6192	6082	6088
25°	6075	5956	5940
30°	5931	5808	5754
35°	5784	5653	5577
40°	5630	5476	5376
45°	5469	5302	5200
50°	5291	5148	4987
55°	5098	4947	4787
60°	4907	4721	4579
65°	4690	4508	4327
70°	4447	4223	4057
75°	4077	3877	3780
80°	3626	3477	3394
85°	3168	3057	3001



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.6	1.9
10°-20°	210.1	5.3
20°-30°	309.2	7.8
30°-40°	359.5	9.1
40°-50°	359.5	9.1
50°-60°	314.5	7.9
60°-70°	233.5	5.9
70°-80°	132.7	3.4
80°-90°	40.1	1.0
90°-100°	21.3	0.5
100°-110°	135.6	3.4
110°-120°	259.4	6.6
120°-130°	329.3	8.3
130°-140°	352.3	8.9
140°-150°	329.4	8.3
150°-160°	265.7	6.7
160°-170°	171.4	4.3
170°-180°	59.1	1.5
0°-30°	593.9	15.0
0°-40°	953.4	24.1
0°-60°	1627.3	41.1
0°-90°	2033.6	51.4
90°-120°	416.3	10.5
90°-150°	1427.3	36.1
90°-180°	1923.0	48.6
0°-180°	3957.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	792	792	792	792	792	
5°	791	788	782	788	787	75
15°	753	750	741	744	743	212
25°	682	677	669	669	667	314
35°	587	582	574	569	566	367
45°	479	474	464	458	456	369
55°	362	360	352	344	340	324
65°	246	242	236	230	226	243
75°	131	128	124	122	121	139
85°	34	34	33	33	32	38
90°	1	6	10	13	14	3
95°	26	11	10	13	14	33
105°	140	143	145	148	133	146
115°	261	263	262	263	263	257
125°	367	369	368	370	370	328
135°	456	455	457	458	459	351
145°	526	527	527	527	528	328
155°	576	577	575	577	576	266
165°	608	606	606	609	605	172
175°	622	619	620	623	618	59
180°	622	622	622	622	622	



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	793.8	793.4	793.1	792.8	792.5	791.7	790.4	789.2	787.9	786.7	787.8
5°	791.2	790.6	790.0	789.5	788.9	787.8	786.3	784.7	783.2	781.6	783.2
7.5°	783.7	783.2	782.7	782.1	781.5	780.4	778.7	777.0	775.2	773.5	774.8
10°	777.1	776.7	776.1	775.5	774.9	773.7	771.9	770.1	768.3	766.4	767.5
12.5°	768.6	768.0	767.4	766.9	766.3	765.1	763.1	761.2	759.2	757.2	758.5
15°	753.1	752.5	752.0	751.4	750.8	749.5	747.4	745.3	743.1	741.0	741.8
17.5°	734.4	733.7	733.0	732.3	731.6	730.3	728.2	726.3	724.2	722.3	722.8
20°	720.7	720.0	719.3	718.6	717.9	716.5	714.4	712.2	710.1	708.0	708.4
22.5°	706.0	705.1	704.2	703.2	702.3	700.7	698.6	696.5	694.4	692.3	693.1
25°	682.0	681.0	680.0	679.1	678.1	676.6	674.6	672.6	670.7	668.7	668.9
27.5°	654.6	653.6	652.6	651.6	650.5	649.1	647.3	645.5	643.6	641.8	641.5
30°	636.3	635.2	634.1	632.9	631.9	630.3	628.5	626.6	624.8	623.1	622.5
32.5°	617.0	616.0	615.0	614.0	613.0	611.5	609.6	607.6	605.7	603.7	603.1
35°	586.9	585.9	584.9	583.9	582.9	581.4	579.4	577.5	575.5	573.6	572.5
37.5°	555.0	554.1	553.2	552.3	551.4	549.9	547.8	545.7	543.6	541.4	540.4
40°	534.2	533.0	531.9	530.8	529.7	528.1	525.9	523.8	521.7	519.6	518.2
42.5°	511.8	511.2	510.5	509.8	509.2	507.6	505.3	503.0	500.6	498.3	496.7
45°	479.0	478.0	477.0	476.1	475.1	473.4	471.2	468.9	466.7	464.4	462.8
47.5°	444.6	443.9	443.3	442.5	441.9	440.5	438.5	436.3	434.2	432.2	430.4
50°	421.3	420.7	420.1	419.6	419.0	417.8	415.8	413.8	411.8	409.9	407.9
52.5°	398.4	397.8	397.1	396.4	395.7	394.4	392.2	390.2	388.1	386.0	384.3
55°	362.2	361.8	361.4	361.0	360.6	359.4	357.4	355.4	353.4	351.5	349.8
57.5°	327.8	327.3	326.8	326.3	325.8	324.7	322.7	320.7	318.8	316.8	315.2
60°	303.9	303.2	302.5	301.7	301.1	299.8	298.0	296.1	294.3	292.4	291.2
62.5°	280.5	280.0	279.3	278.8	278.2	276.9	275.0	273.0	271.1	269.1	268.0
65°	245.5	244.8	244.1	243.4	242.7	241.7	240.3	238.8	237.4	236.0	234.6
67.5°	210.3	209.6	209.0	208.3	207.7	206.7	205.3	204.0	202.6	201.2	199.9
70°	188.4	187.4	186.5	185.5	184.5	183.4	182.3	181.2	180.0	178.9	177.8
72.5°	165.1	164.1	163.1	162.1	161.1	160.2	159.3	158.4	157.5	156.5	155.6
75°	130.7	130.0	129.3	128.6	127.8	127.2	126.5	125.7	125.1	124.3	123.8
77.5°	97.8	97.5	97.2	96.9	96.6	96.1	95.5	94.9	94.2	93.7	93.4
80°	78.0	77.6	77.2	76.8	76.3	76.0	75.7	75.4	75.2	74.8	74.6
82.5°	58.8	58.5	58.4	58.1	58.0	57.8	57.8	57.7	57.6	57.6	57.4
85°	34.2	34.2	34.2	34.2	34.2	34.1	33.8	33.6	33.3	33.0	33.0
87.5°	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.1	14.2	14.3	14.3
90°	1.4	2.5	3.7	4.8	6.0	6.9	7.7	8.6	9.4	10.2	10.8
92.5°	5.9	6.0	6.0	6.0	6.1	6.5	7.4	8.2	9.0	9.9	10.5
95°	25.6	22.1	18.6	15.0	11.5	9.8	9.9	10.0	10.1	10.2	10.8
97.5°	54.3	56.5	58.7	60.9	63.1	58.4	46.9	35.4	23.8	12.3	12.3
100°	76.2	78.1	80.0	81.9	83.7	77.5	63.3	49.0	34.7	20.5	18.7
102.5°	100.9	102.2	103.5	104.9	106.3	106.1	104.2	102.3	100.4	98.6	79.7
105°	140.0	140.6	141.2	141.9	142.4	143.0	143.6	144.1	144.6	145.1	146.0
107.5°	176.3	176.7	177.0	177.2	177.6	178.1	178.8	179.5	180.2	180.9	181.4
110°	200.9	201.2	201.5	201.9	202.1	202.6	203.3	203.8	204.5	205.1	205.3



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.7	225.3	225.8	226.4	227.0	227.4	227.6	228.0	228.3	228.5	228.5
115°	261.4	261.7	262.0	262.3	262.6	262.7	262.6	262.5	262.4	262.3	262.5
117.5°	294.4	294.8	295.2	295.6	296.0	296.4	296.6	296.9	297.0	297.3	297.3
120°	316.7	317.2	317.6	318.0	318.4	318.5	318.5	318.3	318.2	318.1	318.3
122.5°	337.5	337.8	338.0	338.3	338.5	338.8	338.9	339.0	339.2	339.3	339.4
125°	367.4	367.8	368.3	368.7	369.1	369.2	368.9	368.8	368.5	368.4	368.7
127.5°	395.7	395.7	395.9	396.0	396.1	396.4	396.9	397.3	397.8	398.3	398.2
130°	413.9	414.0	414.1	414.3	414.3	414.5	414.8	415.2	415.5	415.8	415.9
132.5°	430.6	430.8	431.0	431.2	431.4	431.7	432.1	432.4	432.8	433.3	433.3
135°	455.8	455.7	455.6	455.4	455.3	455.5	455.9	456.3	456.7	457.1	457.4
137.5°	478.0	478.0	478.1	478.1	478.2	478.4	478.8	479.3	479.8	480.2	480.5
140°	492.5	492.7	492.9	493.1	493.3	493.5	493.7	494.0	494.2	494.4	494.6
142.5°	505.6	505.9	506.3	506.6	507.0	507.3	507.4	507.5	507.6	507.8	508.0
145°	525.5	525.9	526.1	526.4	526.8	526.9	526.9	526.9	526.9	526.9	527.0
147.5°	541.4	542.0	542.6	543.2	543.7	544.0	543.9	543.8	543.6	543.6	543.6
150°	552.9	553.3	553.8	554.2	554.6	554.8	554.6	554.6	554.5	554.3	554.3
152.5°	562.6	563.0	563.3	563.6	563.9	564.0	563.9	563.7	563.5	563.3	563.5
155°	576.3	576.3	576.4	576.5	576.7	576.5	576.3	575.9	575.6	575.3	575.7
157.5°	587.7	587.6	587.5	587.5	587.4	587.2	586.9	586.5	586.1	585.8	586.4
160°	594.4	594.0	593.7	593.5	593.1	592.9	592.8	592.7	592.6	592.5	593.1
162.5°	600.3	599.9	599.5	599.2	598.8	598.5	598.3	598.3	598.2	598.1	598.7
165°	607.8	607.3	606.8	606.3	605.8	605.5	605.5	605.5	605.5	605.5	606.3
167.5°	613.8	613.3	612.7	612.2	611.6	611.3	611.3	611.2	611.1	611.1	612.0
170°	617.2	616.5	615.9	615.3	614.7	614.4	614.5	614.6	614.7	614.8	615.6
172.5°	619.4	618.7	618.2	617.5	616.9	616.6	616.8	616.9	616.9	617.0	617.9
175°	621.8	621.2	620.5	620.0	619.3	619.1	619.1	619.3	619.4	619.5	620.4
177.5°	622.9	622.3	621.7	621.2	620.6	620.4	620.5	620.7	620.9	621.0	621.7
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	789.0	790.1	791.2	791.7	791.6	791.5	791.4	791.2
5°	784.7	786.3	787.8	788.5	788.1	787.9	787.6	787.3
7.5°	776.0	777.2	778.4	779.0	778.9	778.7	778.5	778.3
10°	768.7	769.8	770.9	771.4	771.0	770.8	770.5	770.2
12.5°	759.8	761.0	762.2	762.6	762.2	761.8	761.5	761.1
15°	742.7	743.6	744.4	744.6	744.2	743.8	743.3	742.9
17.5°	723.3	723.8	724.4	724.5	724.2	723.9	723.7	723.4
20°	708.9	709.3	709.7	709.8	709.5	709.2	709.0	708.7
22.5°	693.8	694.6	695.4	695.5	695.0	694.5	694.0	693.4
25°	669.0	669.1	669.3	669.0	668.5	667.9	667.3	666.8
27.5°	641.2	640.7	640.4	639.9	639.2	638.5	637.8	637.1
30°	621.9	621.3	620.8	620.1	619.4	618.7	618.0	617.3
32.5°	602.3	601.7	601.0	600.3	599.7	598.9	598.2	597.5
35°	571.5	570.5	569.6	568.8	568.0	567.3	566.6	565.9
37.5°	539.3	538.2	537.1	536.1	535.2	534.3	533.4	532.4
40°	516.8	515.4	514.0	512.9	512.2	511.5	510.8	510.1
42.5°	495.0	493.3	491.7	490.6	490.2	489.8	489.3	488.8
45°	461.3	459.7	458.2	457.2	456.8	456.4	455.9	455.5
47.5°	428.7	426.9	425.2	423.8	422.7	421.6	420.5	419.5
50°	405.9	403.9	401.9	400.6	399.7	398.8	398.0	397.1
52.5°	382.5	380.7	379.0	377.6	376.5	375.4	374.4	373.3
55°	348.1	346.4	344.7	343.4	342.6	341.8	340.9	340.1
57.5°	313.6	312.0	310.4	309.2	308.3	307.5	306.7	305.9
60°	289.9	288.7	287.4	286.4	285.7	285.0	284.3	283.6
62.5°	266.8	265.6	264.5	263.6	262.9	262.2	261.5	260.7
65°	233.2	231.8	230.4	229.3	228.6	227.9	227.2	226.5
67.5°	198.5	197.2	195.8	195.0	194.9	194.7	194.4	194.3
70°	176.7	175.5	174.4	173.7	173.2	172.8	172.4	171.9
72.5°	154.7	153.8	153.0	152.3	151.9	151.5	151.1	150.6
75°	123.2	122.6	122.1	121.7	121.6	121.5	121.3	121.2
77.5°	93.3	93.1	92.9	92.7	92.3	92.0	91.6	91.2
80°	74.3	74.0	73.7	73.5	73.4	73.2	73.1	73.0
82.5°	57.2	57.1	56.9	56.7	56.7	56.5	56.3	56.2
85°	33.0	33.0	33.0	32.9	32.8	32.6	32.5	32.4
87.5°	14.5	14.6	14.8	14.8	14.8	14.9	14.9	15.0
90°	11.5	12.1	12.7	13.1	13.4	13.5	13.8	13.9
92.5°	11.1	11.7	12.3	12.6	12.7	12.7	12.8	12.8
95°	11.5	12.1	12.7	13.0	13.2	13.3	13.4	13.5
97.5°	12.4	12.5	12.6	12.6	12.7	12.8	12.9	13.0
100°	17.0	15.2	13.5	12.6	12.7	12.8	12.9	13.0
102.5°	60.7	41.7	22.7	13.3	13.4	13.4	13.4	13.4
105°	147.0	147.9	148.8	147.4	143.7	140.0	136.2	132.6
107.5°	181.8	182.3	182.7	183.1	183.5	183.9	184.3	184.7
110°	205.5	205.7	205.9	206.2	206.5	206.8	207.1	207.4



TEST NUMBER: P332550-930

CATALOG NUMBER: S124DIP-S575D590U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.4	228.4	228.4	228.5	228.9	229.3	229.8	230.1
115°	262.7	262.9	263.1	263.3	263.3	263.3	263.3	263.3
117.5°	297.2	297.2	297.1	297.1	297.0	297.0	296.9	296.9
120°	318.5	318.7	318.9	318.9	318.7	318.5	318.3	318.1
122.5°	339.6	339.7	339.8	339.7	339.6	339.3	339.2	338.9
125°	368.9	369.2	369.6	369.8	369.9	370.0	370.1	370.2
127.5°	398.2	398.1	398.0	397.9	397.9	397.8	397.7	397.6
130°	416.0	416.0	416.2	416.2	416.2	416.2	416.2	416.2
132.5°	433.5	433.6	433.7	433.7	433.6	433.5	433.4	433.3
135°	457.5	457.8	458.0	458.2	458.4	458.6	458.9	459.0
137.5°	480.7	480.9	481.1	481.2	481.2	481.1	481.0	480.9
140°	495.0	495.3	495.6	495.8	495.9	496.0	496.1	496.2
142.5°	508.2	508.4	508.7	508.8	508.8	508.8	508.8	508.9
145°	527.1	527.3	527.3	527.5	527.7	527.9	528.2	528.3
147.5°	543.7	543.8	543.9	544.0	544.1	544.2	544.3	544.4
150°	554.3	554.3	554.3	554.4	554.5	554.6	554.7	554.8
152.5°	563.6	563.8	563.9	564.0	563.9	563.9	563.8	563.8
155°	576.1	576.5	576.9	577.0	576.7	576.3	576.1	575.8
157.5°	586.9	587.4	587.9	587.9	587.4	586.9	586.4	585.8
160°	593.7	594.4	595.0	595.0	594.4	593.7	593.1	592.5
162.5°	599.3	599.9	600.5	600.5	599.8	599.1	598.4	597.7
165°	607.2	608.0	608.9	608.8	607.8	606.9	606.0	605.0
167.5°	612.9	613.8	614.7	614.7	613.7	612.6	611.6	610.6
170°	616.4	617.3	618.2	618.0	617.0	616.0	614.9	613.9
172.5°	618.7	619.5	620.4	620.2	619.1	618.0	616.9	615.7
175°	621.3	622.2	623.2	623.1	621.8	620.5	619.3	618.1
177.5°	622.4	623.1	623.7	623.5	622.6	621.6	620.5	619.5
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8

(END OF REPORT)