

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: P332772-940

Luminaire Tested: **S124DIW-S575D1560U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332772-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S575D1560U940-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6940.9 lumens
Efficiency: N/A
Efficacy: 114.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

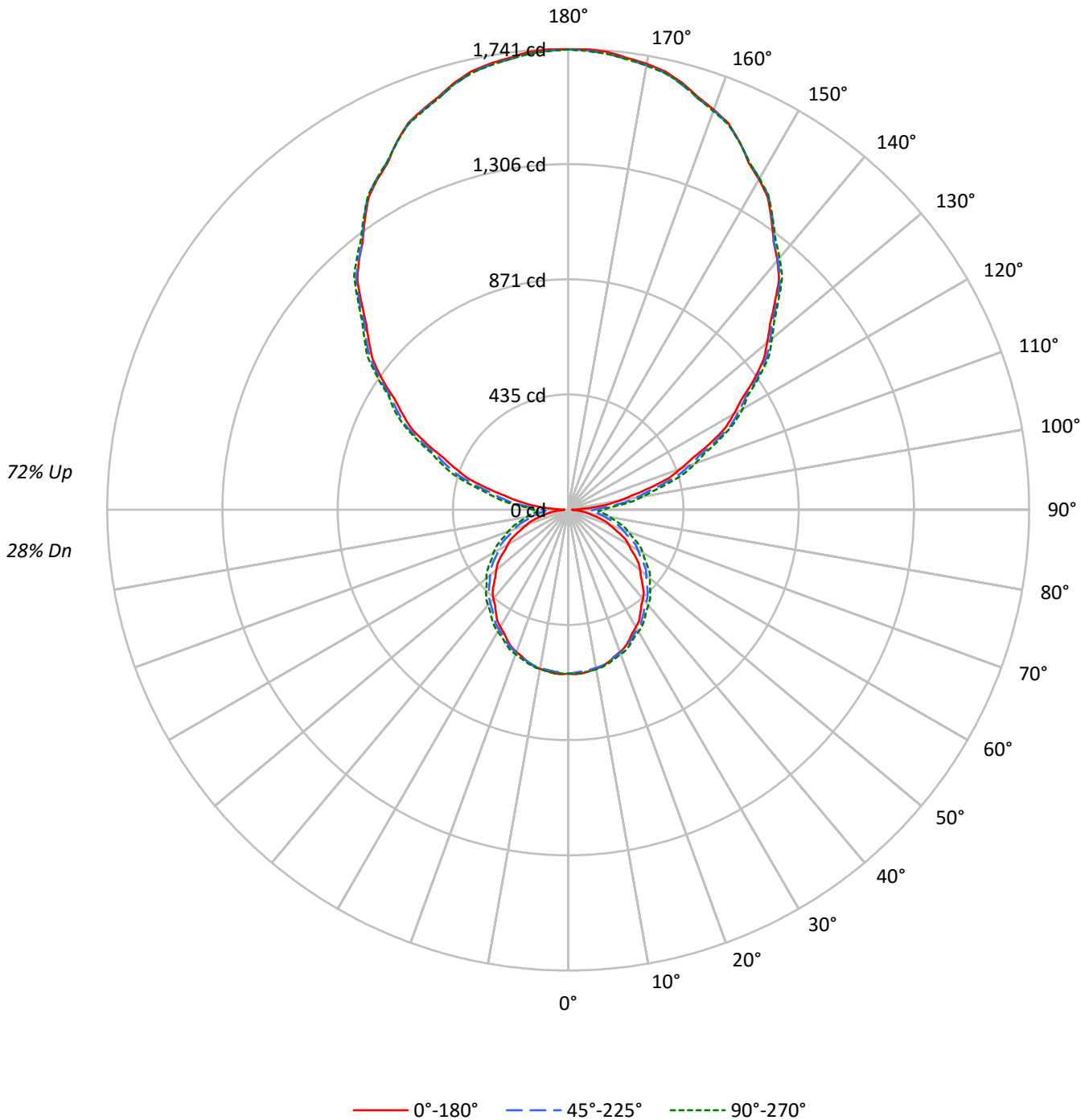
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	0
RCR																		
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	25	24	18
3	76	67	60	54	68	60	54	49	47	42	39	35	32	29	24	22	20	15
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	27	24	21	19	17	15	11
6	58	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	15	13	11	9
8	50	38	30	25	44	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	11	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5002	5002	5002
5°	5018	4889	4903
10°	4987	4809	4805
15°	4943	4717	4690
20°	4875	4614	4579
25°	4799	4500	4456
30°	4717	4386	4330
35°	4624	4269	4220
40°	4550	4158	4105
45°	4439	4056	4005
50°	4344	3938	3901
55°	4249	3827	3778
60°	4098	3685	3667
65°	3933	3533	3529
70°	3733	3359	3369
75°	3453	3169	3224
80°	3143	2984	3082
85°	2746	2820	2999



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.7	0.8
10°-20°	168.1	2.4
20°-30°	254.2	3.7
30°-40°	307.6	4.4
40°-50°	325.2	4.7
50°-60°	306.0	4.4
60°-70°	253.9	3.7
70°-80°	178.3	2.6
80°-90°	106.0	1.5
90°-100°	174.5	2.5
100°-110°	384.0	5.5
110°-120°	606.3	8.7
120°-130°	777.0	11.2
130°-140°	861.0	12.4
140°-150°	840.4	12.1
150°-160°	705.6	10.2
160°-170°	469.5	6.8
170°-180°	164.4	2.4
0°-30°	481.0	6.9
0°-40°	788.6	11.4
0°-60°	1419.8	20.5
0°-90°	1958.0	28.2
90°-120°	1164.8	16.8
90°-150°	3643.3	52.5
90°-180°	4983.0	71.8
0°-180°	6940.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	620	620	620	620	620	
5°	620	618	613	619	618	59
15°	595	595	593	599	599	167
25°	544	548	550	558	559	250
35°	476	484	491	501	503	298
45°	397	410	423	435	438	307
55°	311	326	346	360	364	277
65°	215	237	261	278	284	213
75°	119	145	174	193	200	127
85°	37	66	97	117	125	39
90°	15	58	98	125	135	12
95°	90	125	163	184	192	97
105°	320	336	366	387	397	339
115°	590	597	616	630	634	582
125°	857	857	872	882	884	763
135°	1103	1110	1116	1123	1124	853
145°	1338	1343	1344	1347	1346	837
155°	1533	1533	1531	1536	1531	705
165°	1669	1665	1662	1669	1665	470
175°	1736	1729	1728	1736	1728	165
180°	1738	1738	1738	1738	1738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	621.9	621.5	621.2	620.7	620.4	619.7	618.8	617.8	616.7	615.7	616.6
5°	620.4	619.9	619.4	618.9	618.5	617.7	616.6	615.5	614.5	613.4	614.7
7.5°	615.1	614.7	614.5	614.2	613.9	613.4	612.5	611.6	610.6	609.8	611.2
10°	610.6	610.5	610.3	610.2	610.0	609.6	608.8	608.0	607.3	606.5	607.9
12.5°	604.5	604.5	604.5	604.4	604.4	604.1	603.6	603.1	602.5	602.0	603.2
15°	594.7	594.9	594.9	595.1	595.3	595.1	594.7	594.2	593.7	593.3	594.7
17.5°	581.2	581.7	582.1	582.6	583.1	583.3	583.2	583.1	583.0	582.9	584.2
20°	571.8	572.2	572.7	573.2	573.6	573.9	574.1	574.3	574.4	574.5	576.0
22.5°	561.2	561.8	562.4	562.9	563.6	564.0	564.3	564.5	564.8	565.1	566.7
25°	544.0	544.9	545.9	546.8	547.7	548.4	548.8	549.3	549.8	550.3	552.0
27.5°	524.9	526.2	527.5	529.0	530.3	531.3	532.0	532.7	533.4	534.1	535.7
30°	512.1	513.4	514.5	515.8	517.0	518.2	519.2	520.3	521.4	522.5	524.2
32.5°	498.2	499.7	501.1	502.7	504.2	505.5	506.7	507.9	509.1	510.3	512.2
35°	476.0	477.9	479.7	481.5	483.4	485.1	486.6	488.2	489.7	491.2	493.5
37.5°	453.7	455.8	457.9	460.0	462.2	464.2	466.1	468.1	469.9	471.8	474.0
40°	439.3	441.2	443.3	445.2	447.3	449.3	451.5	453.6	455.8	458.0	460.3
42.5°	422.6	424.8	427.0	429.4	431.6	434.0	436.5	439.0	441.6	444.1	446.7
45°	396.9	399.8	402.8	405.7	408.6	411.5	414.5	417.4	420.4	423.3	425.9
47.5°	372.4	375.3	378.4	381.4	384.4	387.6	391.0	394.4	397.8	401.2	403.9
50°	354.5	357.9	361.3	364.8	368.2	371.6	375.0	378.4	381.7	385.1	388.2
52.5°	336.8	340.2	343.6	347.0	350.4	354.0	357.9	361.8	365.7	369.5	372.6
55°	310.9	314.1	317.4	320.6	323.8	327.7	332.3	337.0	341.6	346.3	349.4
57.5°	281.9	285.9	289.9	293.9	297.9	302.2	306.7	311.4	316.0	320.6	324.2
60°	263.0	267.0	271.0	275.0	279.0	283.6	288.6	293.7	298.8	303.9	307.5
62.5°	244.7	249.1	253.4	257.8	262.2	266.9	272.0	277.1	282.2	287.3	290.8
65°	215.1	220.1	225.0	229.9	234.9	240.0	245.1	250.4	255.7	260.9	264.7
67.5°	186.6	191.9	197.2	202.4	207.6	213.0	218.6	224.3	229.9	235.5	239.4
70°	167.2	172.5	177.7	183.0	188.2	193.8	199.6	205.5	211.3	217.2	221.3
72.5°	148.4	153.7	159.1	164.4	169.8	175.6	181.8	188.1	194.3	200.5	204.6
75°	119.3	125.0	130.7	136.4	142.1	148.3	154.7	161.2	167.7	174.2	178.5
77.5°	92.3	98.4	104.4	110.4	116.5	122.9	129.7	136.4	143.2	150.0	154.4
80°	75.6	81.8	88.0	94.2	100.3	106.7	113.6	120.4	127.2	133.9	138.6
82.5°	58.9	65.4	71.8	78.2	84.6	91.2	98.0	104.8	111.6	118.4	123.1
85°	36.7	43.2	49.8	56.2	62.7	69.4	76.3	83.3	90.2	97.1	101.7
87.5°	21.3	28.3	35.2	42.2	49.1	56.3	63.5	70.7	77.9	85.2	90.0
90°	15.2	24.6	34.1	43.5	53.0	62.2	71.2	80.3	89.3	98.3	104.5
92.5°	39.3	48.6	58.0	67.2	76.6	85.4	93.7	102.0	110.3	118.6	124.0
95°	89.7	97.5	105.2	113.1	120.8	128.9	137.3	145.7	154.2	162.6	167.6
97.5°	149.1	155.6	162.2	168.7	175.2	182.8	191.5	200.3	208.9	217.7	222.8
100°	195.9	201.1	206.3	211.5	216.7	223.6	232.4	241.0	249.8	258.4	263.2
102.5°	245.3	249.3	253.3	257.3	261.4	267.5	275.8	284.2	292.5	300.9	305.8
105°	319.5	322.9	326.3	329.7	333.1	338.2	345.1	352.0	358.9	365.8	370.6
107.5°	398.7	401.6	404.5	407.4	410.3	414.5	420.1	425.6	431.2	436.8	441.4
110°	451.9	454.7	457.4	460.2	463.0	466.9	472.0	477.1	482.1	487.3	490.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	507.3	509.3	511.4	513.4	515.4	518.8	523.3	528.0	532.6	537.3	540.6
115°	590.4	591.7	593.2	594.6	595.9	598.8	603.2	607.4	611.8	616.2	619.2
117.5°	669.3	670.4	671.5	672.5	673.6	676.2	680.4	684.6	688.8	692.9	695.1
120°	721.5	723.1	724.8	726.5	728.1	730.7	734.3	737.9	741.5	745.0	746.6
122.5°	776.3	776.9	777.5	778.0	778.6	780.8	784.6	788.4	792.2	796.0	798.1
125°	856.6	856.4	856.2	856.1	856.0	857.6	861.2	864.8	868.3	871.9	874.2
127.5°	929.9	930.6	931.3	932.1	932.8	934.4	936.9	939.4	941.9	944.3	946.6
130°	980.9	981.7	982.4	983.1	983.9	985.5	987.9	990.4	992.9	995.3	997.6
132.5°	1033.6	1034.1	1034.7	1035.1	1035.6	1036.8	1038.5	1040.3	1042.0	1043.7	1045.7
135°	1102.6	1104.4	1106.2	1108.0	1109.7	1111.2	1112.2	1113.3	1114.5	1115.5	1117.4
137.5°	1178.4	1179.1	1179.7	1180.4	1181.2	1182.0	1182.9	1184.0	1185.0	1186.0	1187.5
140°	1229.0	1229.4	1229.8	1230.3	1230.7	1231.0	1231.2	1231.4	1231.5	1231.6	1233.3
142.5°	1274.7	1275.2	1275.8	1276.4	1276.9	1277.0	1276.8	1276.4	1276.0	1275.7	1277.5
145°	1338.5	1339.5	1340.6	1341.7	1342.6	1343.4	1343.6	1344.0	1344.3	1344.5	1345.1
147.5°	1401.9	1403.3	1404.5	1405.9	1407.1	1407.7	1407.4	1407.1	1406.9	1406.7	1406.6
150°	1440.7	1441.7	1442.8	1443.9	1444.8	1445.4	1445.4	1445.4	1445.4	1445.4	1445.4
152.5°	1476.8	1477.4	1478.1	1478.8	1479.4	1480.0	1480.2	1480.4	1480.7	1480.9	1481.6
155°	1532.8	1532.8	1532.8	1532.8	1532.8	1532.7	1532.3	1532.0	1531.8	1531.4	1532.7
157.5°	1580.1	1579.6	1579.0	1578.5	1578.0	1577.7	1577.6	1577.5	1577.5	1577.4	1578.3
160°	1608.1	1607.8	1607.5	1607.2	1606.9	1606.6	1606.3	1606.0	1605.7	1605.4	1606.3
162.5°	1633.9	1633.2	1632.4	1631.6	1630.8	1630.2	1630.0	1629.7	1629.3	1629.1	1630.7
165°	1668.6	1667.7	1666.8	1665.9	1665.0	1664.3	1663.7	1663.0	1662.5	1661.9	1663.7
167.5°	1695.2	1694.0	1692.7	1691.5	1690.2	1689.6	1689.7	1689.7	1689.8	1689.9	1691.7
170°	1710.3	1708.8	1707.3	1705.8	1704.3	1703.7	1704.0	1704.3	1704.6	1704.9	1706.6
172.5°	1721.0	1719.8	1718.5	1717.3	1716.0	1715.4	1715.5	1715.6	1715.6	1715.7	1717.7
175°	1735.8	1734.3	1732.9	1731.3	1729.8	1728.9	1728.7	1728.3	1728.0	1727.8	1729.8
177.5°	1740.6	1739.5	1738.3	1737.1	1735.9	1735.3	1735.3	1735.3	1735.3	1735.3	1737.0
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	619.6	619.6	619.6	619.6	619.6	619.6	619.6	619.6
2.5°	617.5	618.3	619.2	619.6	619.5	619.3	619.2	619.1
5°	615.9	617.1	618.3	618.8	618.8	618.6	618.4	618.2
7.5°	612.6	613.9	615.4	616.0	615.8	615.6	615.5	615.4
10°	609.2	610.6	612.0	612.6	612.5	612.3	612.2	612.0
12.5°	604.6	605.8	607.1	607.7	607.7	607.6	607.6	607.6
15°	596.0	597.4	598.8	599.4	599.3	599.1	599.0	598.8
17.5°	585.7	587.1	588.5	589.2	589.1	589.0	588.8	588.7
20°	577.7	579.2	580.7	581.5	581.5	581.5	581.5	581.5
22.5°	568.2	569.7	571.2	572.2	572.4	572.7	572.9	573.2
25°	553.7	555.4	557.1	557.9	558.1	558.3	558.4	558.6
27.5°	537.3	538.9	540.5	541.4	541.5	541.7	541.9	542.1
30°	525.9	527.6	529.3	530.3	530.6	530.9	531.2	531.5
32.5°	514.2	516.1	518.1	519.2	519.5	519.8	520.1	520.4
35°	495.6	497.8	499.9	501.2	501.7	502.1	502.6	503.1
37.5°	476.3	478.4	480.6	482.0	482.4	483.0	483.4	483.9
40°	462.6	464.9	467.3	468.7	469.3	469.9	470.6	471.2
42.5°	449.2	451.7	454.3	455.8	456.4	456.8	457.4	457.8
45°	428.6	431.1	433.7	435.4	436.2	437.0	437.7	438.5
47.5°	406.6	409.4	412.1	413.8	414.8	415.7	416.7	417.6
50°	391.3	394.4	397.4	399.5	400.4	401.3	402.3	403.1
52.5°	375.8	378.8	381.9	383.9	384.9	385.8	386.6	387.6
55°	352.4	355.5	358.6	360.6	361.5	362.5	363.4	364.3
57.5°	327.9	331.6	335.3	337.5	338.4	339.2	340.1	341.0
60°	311.0	314.6	318.1	320.5	321.7	323.0	324.2	325.5
62.5°	294.4	297.9	301.5	303.8	305.1	306.3	307.6	308.8
65°	268.6	272.5	276.3	278.8	280.1	281.3	282.6	283.8
67.5°	243.3	247.3	251.2	253.7	254.9	256.1	257.3	258.5
70°	225.5	229.7	233.8	236.5	237.6	238.6	239.7	240.8
72.5°	208.6	212.7	216.7	219.3	220.5	221.7	222.9	224.1
75°	182.8	187.1	191.5	194.3	195.6	197.1	198.5	199.8
77.5°	158.8	163.2	167.6	170.5	171.9	173.4	174.9	176.4
80°	143.2	147.8	152.4	155.3	156.6	157.8	159.1	160.3
82.5°	127.9	132.6	137.4	140.4	141.8	143.1	144.5	145.9
85°	106.4	111.0	115.7	118.8	120.3	121.8	123.3	124.9
87.5°	94.8	99.7	104.5	107.6	109.1	110.6	112.1	113.5
90°	110.8	117.1	123.3	127.4	129.2	131.1	132.9	134.7
92.5°	129.5	134.9	140.3	143.8	145.4	147.0	148.6	150.2
95°	172.6	177.7	182.8	186.0	187.4	188.8	190.2	191.5
97.5°	227.9	233.0	238.2	241.4	242.7	244.1	245.3	246.6
100°	268.0	272.8	277.5	280.4	281.5	282.6	283.7	284.7
102.5°	310.6	315.5	320.4	323.5	324.9	326.4	327.9	329.3
105°	375.3	380.0	384.8	388.3	390.4	392.5	394.7	396.8
107.5°	446.0	450.7	455.3	458.2	459.2	460.3	461.3	462.4
110°	493.2	496.1	499.1	501.6	503.7	505.9	508.0	510.1



TEST NUMBER: P332772-940

CATALOG NUMBER: S124DIW-S575D1560U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	543.9	547.2	550.5	552.8	554.2	555.6	557.1	558.5
115°	622.3	625.4	628.6	630.4	631.2	632.0	632.8	633.6
117.5°	697.3	699.5	701.7	703.1	703.7	704.4	705.0	705.6
120°	748.2	749.8	751.4	753.0	754.9	756.7	758.6	760.5
122.5°	800.1	802.2	804.3	805.3	805.4	805.4	805.5	805.5
125°	876.6	878.9	881.2	882.5	882.9	883.2	883.5	883.9
127.5°	948.7	950.9	953.1	954.4	955.0	955.6	956.2	956.7
130°	999.7	1001.9	1004.1	1005.0	1004.8	1004.5	1004.2	1004.0
132.5°	1047.8	1049.9	1052.0	1053.2	1053.6	1054.1	1054.5	1055.0
135°	1119.3	1121.1	1123.0	1123.9	1124.0	1124.0	1124.0	1124.1
137.5°	1188.9	1190.4	1191.9	1193.1	1194.1	1195.0	1196.0	1196.9
140°	1235.1	1236.8	1238.5	1239.6	1240.0	1240.5	1241.0	1241.4
142.5°	1279.2	1280.9	1282.5	1283.6	1284.2	1284.9	1285.4	1286.0
145°	1345.8	1346.4	1347.0	1347.2	1346.9	1346.7	1346.4	1346.1
147.5°	1406.4	1406.3	1406.2	1406.2	1406.4	1406.7	1406.9	1407.0
150°	1445.4	1445.4	1445.4	1445.3	1444.9	1444.7	1444.4	1444.0
152.5°	1482.3	1483.0	1483.7	1483.7	1482.9	1482.2	1481.4	1480.6
155°	1533.8	1535.0	1536.2	1536.2	1535.0	1533.8	1532.7	1531.4
157.5°	1579.2	1580.1	1581.0	1580.9	1579.9	1579.0	1577.9	1576.9
160°	1607.2	1608.1	1609.0	1608.6	1607.2	1605.7	1604.2	1602.7
162.5°	1632.3	1633.9	1635.5	1635.6	1634.1	1632.6	1631.1	1629.6
165°	1665.4	1667.2	1669.0	1669.4	1668.1	1667.0	1665.7	1664.6
167.5°	1693.4	1695.2	1697.0	1697.0	1695.1	1693.3	1691.4	1689.5
170°	1708.5	1710.3	1712.1	1711.9	1709.9	1707.7	1705.7	1703.5
172.5°	1719.8	1721.7	1723.8	1723.8	1721.6	1719.6	1717.4	1715.4
175°	1732.0	1734.0	1736.2	1736.2	1734.0	1732.0	1729.8	1727.8
177.5°	1738.7	1740.3	1742.0	1741.9	1739.9	1738.0	1736.2	1734.2
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5

(END OF REPORT)