

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: P332771-930

Luminaire Tested: **S124DIW-S575D1560U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332771-930
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: S124DIW-S575D1560U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7020.9 lumens
Efficiency: N/A
Efficacy: 115.9 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

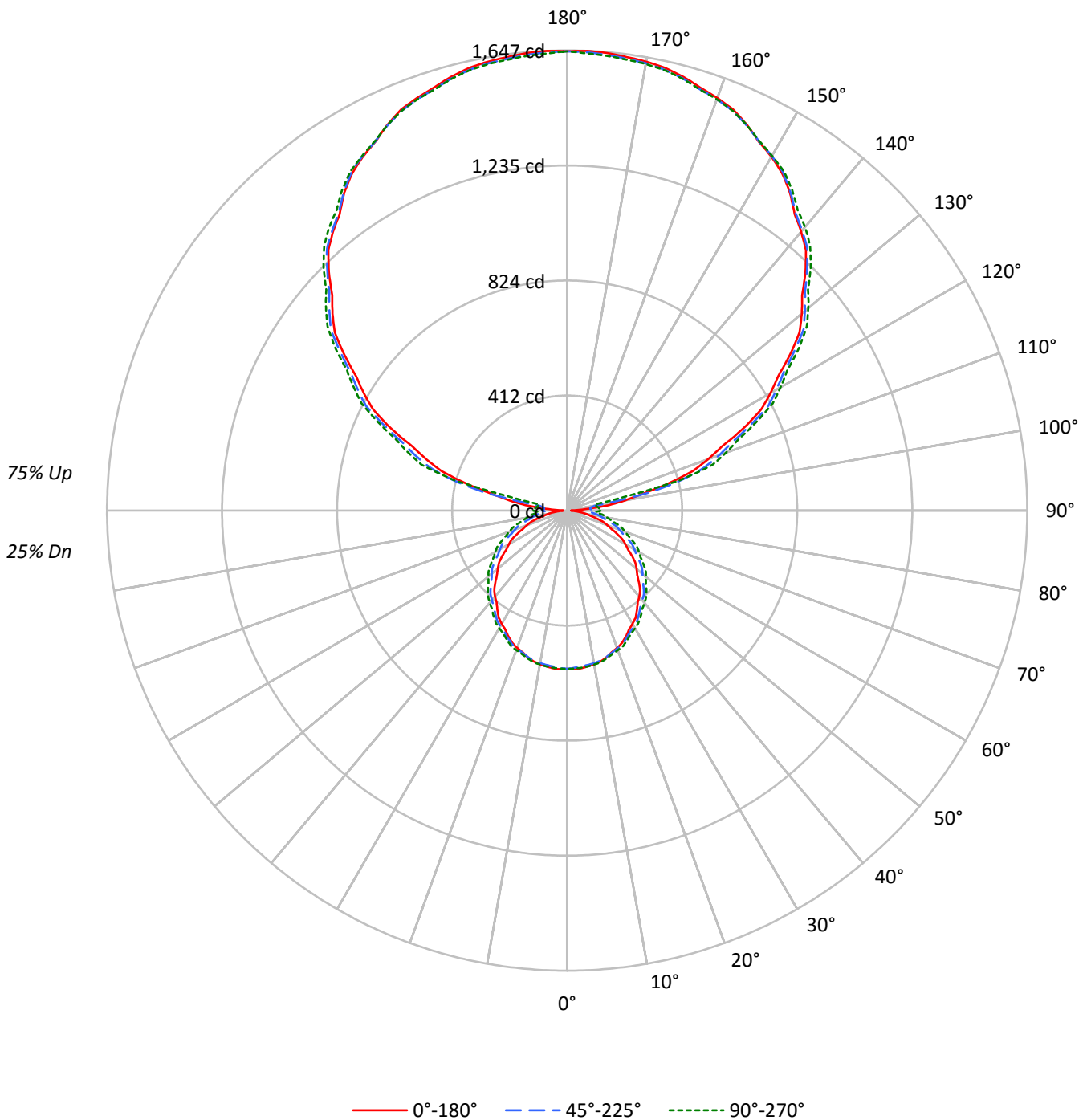
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332771-930

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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	25
1	92	87	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27	20
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23	17
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	19	14
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	46	40	35	36	31	28	26	23	21	17	15	14	10
6	58	46	38	33	51	42	35	30	32	27	24	24	20	18	16	14	12	9
7	54	42	34	28	47	37	31	26	29	24	21	22	18	16	14	12	11	8
8	50	38	30	25	44	34	27	23	26	22	18	20	16	14	13	11	9	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	12	10	8	6
10	43	31	24	20	38	28	22	18	22	18	14	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4574	4574	4574
5°	4588	4470	4482
10°	4560	4397	4393
15°	4519	4312	4289
20°	4458	4219	4187
25°	4388	4114	4074
30°	4313	4011	3959
35°	4227	3903	3858
40°	4160	3802	3753
45°	4059	3708	3663
50°	3973	3600	3567
55°	3884	3499	3454
60°	3746	3369	3353
65°	3597	3231	3227
70°	3414	3072	3080
75°	3157	2896	2948
80°	2873	2730	2819
85°	2514	2579	2742



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.6	0.8
10°-20°	153.7	2.2
20°-30°	232.4	3.3
30°-40°	281.2	4.0
40°-50°	297.3	4.2
50°-60°	279.8	4.0
60°-70°	232.1	3.3
70°-80°	163.1	2.3
80°-90°	96.9	1.4
90°-100°	111.0	1.6
100°-110°	399.0	5.7
110°-120°	713.0	10.2
120°-130°	885.9	12.6
130°-140°	938.0	13.4
140°-150°	872.3	12.4
150°-160°	702.4	10.0
160°-170°	453.0	6.5
170°-180°	156.1	2.2
0°-30°	439.8	6.3
0°-40°	721.0	10.3
0°-60°	1298.1	18.5
0°-90°	1790.3	25.5
90°-120°	1222.9	17.4
90°-150°	3919.1	55.8
90°-180°	5231.0	74.5
0°-180°	7020.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	567	567	567	567	567	
5°	567	565	561	566	565	54
15°	544	544	542	548	548	153
25°	497	501	503	510	511	229
35°	435	443	449	458	460	272
45°	363	375	387	397	401	280
55°	284	298	317	329	333	253
65°	197	217	239	254	260	195
75°	109	133	159	176	183	116
85°	34	60	89	107	114	36
90°	14	53	90	115	123	10
95°	76	58	82	106	114	93
105°	376	396	426	449	413	394
115°	695	705	723	739	744	684
125°	974	979	992	1007	1012	869
135°	1206	1206	1214	1227	1233	929
145°	1390	1393	1393	1398	1403	868
155°	1523	1524	1521	1525	1522	702
165°	1607	1601	1601	1610	1600	454
175°	1644	1637	1638	1647	1634	156
180°	1644	1644	1644	1644	1644	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	568.6	568.3	567.9	567.5	567.2	566.6	565.7	564.8	563.9	563.0	563.8
5°	567.2	566.8	566.3	565.9	565.5	564.8	563.8	562.8	561.8	560.8	562.0
7.5°	562.4	562.1	561.8	561.6	561.3	560.8	560.0	559.2	558.3	557.5	558.8
10°	558.3	558.2	558.0	557.9	557.7	557.3	556.6	555.9	555.2	554.5	555.8
12.5°	552.7	552.7	552.7	552.6	552.6	552.4	551.9	551.4	550.9	550.4	551.5
15°	543.7	543.9	544.0	544.1	544.3	544.1	543.7	543.3	542.8	542.4	543.7
17.5°	531.4	531.8	532.2	532.6	533.1	533.3	533.2	533.1	533.0	533.0	534.2
20°	522.8	523.2	523.6	524.1	524.5	524.7	524.9	525.1	525.1	525.3	526.7
22.5°	513.1	513.6	514.2	514.7	515.3	515.7	515.9	516.2	516.4	516.7	518.1
25°	497.4	498.2	499.1	499.9	500.8	501.4	501.8	502.2	502.7	503.1	504.7
27.5°	479.9	481.1	482.3	483.6	484.9	485.8	486.4	487.1	487.7	488.4	489.8
30°	468.2	469.4	470.4	471.6	472.7	473.8	474.7	475.7	476.7	477.8	479.3
32.5°	455.5	456.9	458.2	459.6	461.0	462.2	463.3	464.4	465.5	466.6	468.3
35°	435.2	436.9	438.6	440.3	442.0	443.5	444.9	446.4	447.8	449.1	451.2
37.5°	414.8	416.7	418.7	420.6	422.6	424.4	426.2	428.0	429.7	431.4	433.4
40°	401.6	403.4	405.3	407.1	409.0	410.8	412.8	414.7	416.8	418.7	420.9
42.5°	386.4	388.4	390.4	392.6	394.6	396.8	399.1	401.4	403.7	406.0	408.4
45°	362.9	365.6	368.3	371.0	373.6	376.3	379.0	381.6	384.3	387.0	389.4
47.5°	340.5	343.2	345.9	348.7	351.5	354.4	357.5	360.6	363.7	366.8	369.3
50°	324.2	327.3	330.4	333.5	336.6	339.7	342.8	345.9	349.0	352.1	354.9
52.5°	307.9	311.0	314.1	317.2	320.3	323.7	327.3	330.8	334.4	337.9	340.7
55°	284.2	287.1	290.2	293.1	296.0	299.6	303.9	308.1	312.3	316.6	319.4
57.5°	257.7	261.4	265.1	268.7	272.4	276.3	280.5	284.7	288.9	293.1	296.4
60°	240.4	244.1	247.8	251.4	255.1	259.3	263.9	268.6	273.2	277.9	281.1
62.5°	223.7	227.7	231.7	235.7	239.7	244.0	248.7	253.3	258.0	262.7	265.9
65°	196.7	201.2	205.7	210.2	214.7	219.4	224.1	228.9	233.7	238.6	242.1
67.5°	170.6	175.5	180.3	185.1	189.8	194.8	199.9	205.0	210.2	215.3	218.9
70°	152.9	157.7	162.5	167.3	172.1	177.2	182.5	187.8	193.2	198.6	202.4
72.5°	135.7	140.6	145.4	150.3	155.2	160.5	166.2	171.9	177.7	183.4	187.0
75°	109.1	114.3	119.5	124.7	130.0	135.6	141.5	147.4	153.4	159.2	163.2
77.5°	84.4	89.9	95.5	100.9	106.5	112.3	118.5	124.7	130.9	137.1	141.1
80°	69.1	74.8	80.5	86.1	91.7	97.6	103.9	110.1	116.3	122.5	126.7
82.5°	53.9	59.8	65.6	71.5	77.4	83.4	89.6	95.8	102.0	108.3	112.6
85°	33.6	39.5	45.5	51.4	57.3	63.4	69.8	76.1	82.5	88.8	93.0
87.5°	19.5	25.8	32.2	38.6	44.9	51.4	58.0	64.7	71.3	77.9	82.3
90°	13.9	22.5	31.1	39.8	48.4	56.8	65.1	73.4	81.6	89.8	95.6
92.5°	25.1	30.4	35.6	40.8	46.1	52.8	61.1	69.3	77.6	85.9	91.5
95°	75.9	71.3	66.6	62.0	57.3	58.0	64.1	70.1	76.2	82.3	87.7
97.5°	151.1	160.9	170.7	180.5	190.3	182.8	158.0	133.2	108.5	83.7	87.6
100°	208.6	217.2	225.8	234.4	243.0	231.1	198.9	166.7	134.5	102.3	101.5
102.5°	273.5	280.4	287.1	294.0	300.8	304.4	304.9	305.4	305.9	306.3	259.9
105°	375.8	380.3	384.7	389.1	393.6	399.2	405.7	412.3	418.9	425.5	431.5
107.5°	471.8	474.9	478.1	481.2	484.4	489.3	496.1	502.9	509.6	516.5	521.1
110°	536.2	539.0	541.8	544.6	547.4	552.0	558.6	565.2	571.8	578.4	582.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	598.7	601.9	605.1	608.3	611.6	615.9	621.4	626.9	632.3	637.8	640.8
115°	694.8	696.8	699.0	701.1	703.1	706.3	710.5	714.8	719.0	723.3	726.9
117.5°	782.0	783.8	785.7	787.5	789.4	792.7	797.5	802.3	807.1	811.9	814.7
120°	840.5	842.0	843.5	845.0	846.5	849.2	853.0	856.8	860.6	864.5	867.8
122.5°	895.5	896.3	897.0	897.8	898.5	901.0	905.2	909.5	913.7	917.9	921.1
125°	973.9	974.8	975.8	976.7	977.6	979.6	982.6	985.6	988.6	991.6	995.0
127.5°	1048.5	1048.6	1048.7	1048.9	1049.0	1051.1	1055.0	1059.0	1062.9	1066.9	1069.3
130°	1096.2	1096.3	1096.4	1096.6	1096.7	1098.3	1101.4	1104.4	1107.5	1110.6	1113.4
132.5°	1140.4	1140.8	1141.1	1141.5	1141.8	1143.5	1146.2	1149.1	1151.9	1154.8	1157.5
135°	1206.2	1205.9	1205.7	1205.3	1205.1	1206.0	1208.1	1210.1	1212.3	1214.3	1217.1
137.5°	1264.9	1264.9	1264.9	1264.9	1264.9	1265.7	1267.3	1269.0	1270.7	1272.4	1275.0
140°	1303.3	1303.7	1304.2	1304.6	1305.0	1305.5	1306.2	1306.8	1307.6	1308.2	1310.9
142.5°	1337.3	1338.2	1339.1	1340.1	1341.1	1341.7	1341.9	1342.1	1342.4	1342.6	1344.8
145°	1390.0	1390.7	1391.3	1392.0	1392.7	1393.0	1393.0	1393.0	1393.0	1393.0	1394.2
147.5°	1432.0	1433.4	1434.8	1436.1	1437.6	1438.1	1437.9	1437.6	1437.3	1437.0	1437.4
150°	1462.5	1463.5	1464.4	1465.3	1466.3	1466.6	1466.4	1466.2	1465.8	1465.6	1465.6
152.5°	1487.6	1488.4	1489.3	1490.1	1490.9	1491.2	1490.6	1490.1	1489.6	1489.1	1489.6
155°	1523.4	1523.6	1523.9	1524.2	1524.4	1524.2	1523.4	1522.6	1521.8	1520.9	1522.0
157.5°	1553.6	1553.5	1553.3	1553.1	1553.0	1552.4	1551.4	1550.5	1549.6	1548.7	1550.1
160°	1571.3	1570.5	1569.7	1568.9	1568.1	1567.5	1567.2	1566.9	1566.7	1566.4	1568.1
162.5°	1587.1	1586.0	1584.9	1584.0	1582.9	1582.3	1581.9	1581.7	1581.4	1581.1	1582.7
165°	1607.0	1605.6	1604.3	1602.9	1601.5	1600.8	1600.8	1600.8	1600.8	1600.8	1603.0
167.5°	1622.7	1621.3	1619.8	1618.5	1617.0	1616.2	1616.1	1615.9	1615.8	1615.6	1618.0
170°	1631.6	1629.9	1628.2	1626.6	1625.0	1624.3	1624.6	1624.9	1625.1	1625.4	1627.6
172.5°	1637.4	1635.8	1634.2	1632.6	1630.9	1630.2	1630.5	1630.8	1631.0	1631.3	1633.5
175°	1643.8	1642.2	1640.5	1638.9	1637.3	1636.6	1636.9	1637.1	1637.4	1637.7	1640.1
177.5°	1646.8	1645.3	1643.7	1642.2	1640.7	1640.1	1640.5	1641.0	1641.4	1641.8	1643.6
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	564.6	565.3	566.1	566.5	566.4	566.2	566.1	566.1
5°	563.1	564.2	565.3	565.8	565.7	565.6	565.4	565.2
7.5°	560.1	561.3	562.6	563.2	563.0	562.9	562.7	562.6
10°	557.0	558.3	559.5	560.1	560.0	559.9	559.7	559.5
12.5°	552.8	553.9	555.1	555.6	555.6	555.5	555.5	555.5
15°	544.9	546.3	547.5	548.0	548.0	547.8	547.6	547.5
17.5°	535.5	536.8	538.1	538.7	538.6	538.5	538.3	538.3
20°	528.2	529.5	530.9	531.7	531.7	531.7	531.7	531.7
22.5°	519.5	520.9	522.3	523.2	523.3	523.6	523.8	524.1
25°	506.2	507.8	509.3	510.1	510.3	510.5	510.5	510.7
27.5°	491.3	492.7	494.2	495.0	495.1	495.3	495.5	495.6
30°	480.9	482.4	484.0	484.9	485.1	485.4	485.7	486.0
32.5°	470.1	471.9	473.7	474.7	475.0	475.2	475.6	475.8
35°	453.1	455.1	457.1	458.3	458.7	459.1	459.5	460.0
37.5°	435.5	437.4	439.4	440.7	441.1	441.6	442.0	442.5
40°	423.0	425.1	427.2	428.5	429.1	429.7	430.2	430.8
42.5°	410.7	413.0	415.4	416.8	417.3	417.7	418.2	418.6
45°	391.8	394.2	396.6	398.1	398.8	399.6	400.2	401.0
47.5°	371.8	374.3	376.7	378.4	379.3	380.1	381.0	381.8
50°	357.8	360.6	363.4	365.3	366.1	366.9	367.8	368.6
52.5°	343.6	346.3	349.2	351.0	351.9	352.7	353.5	354.4
55°	322.2	325.1	327.8	329.7	330.5	331.4	332.2	333.0
57.5°	299.8	303.2	306.6	308.6	309.4	310.1	311.0	311.8
60°	284.4	287.6	290.8	293.0	294.2	295.3	296.4	297.6
62.5°	269.1	272.4	275.7	277.8	278.9	280.1	281.2	282.3
65°	245.6	249.2	252.7	254.9	256.1	257.2	258.4	259.5
67.5°	222.5	226.1	229.7	232.0	233.1	234.2	235.3	236.4
70°	206.2	210.0	213.8	216.2	217.2	218.2	219.2	220.1
72.5°	190.7	194.4	198.1	200.5	201.6	202.7	203.8	204.9
75°	167.1	171.0	175.0	177.7	178.9	180.2	181.5	182.7
77.5°	145.2	149.2	153.2	155.9	157.2	158.6	159.9	161.3
80°	130.9	135.1	139.3	142.0	143.2	144.3	145.4	146.6
82.5°	116.9	121.2	125.6	128.4	129.6	130.9	132.1	133.4
85°	97.3	101.5	105.7	108.6	110.0	111.4	112.8	114.2
87.5°	86.7	91.2	95.6	98.4	99.8	101.1	102.5	103.8
90°	101.3	107.0	112.8	116.5	118.1	119.8	121.5	123.2
92.5°	97.0	102.6	108.3	111.7	112.9	114.2	115.4	116.7
95°	93.1	98.6	104.0	107.5	109.1	110.6	112.2	113.7
97.5°	91.5	95.3	99.1	101.8	103.3	104.8	106.3	107.8
100°	100.6	99.8	99.0	99.1	100.4	101.7	103.0	104.2
102.5°	213.5	167.1	120.7	98.1	99.2	100.4	101.5	102.6
105°	437.4	443.4	449.4	448.1	439.4	430.6	421.9	413.2
107.5°	525.8	530.5	535.2	538.5	540.5	542.6	544.7	546.7
110°	586.0	589.7	593.5	596.4	598.3	600.3	602.3	604.2



TEST NUMBER: P332771-930

CATALOG NUMBER: S124DIW-S575D1560U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	643.8	646.9	649.9	652.5	654.7	656.8	659.0	661.1
115°	730.6	734.2	737.8	740.1	741.2	742.2	743.1	744.1
117.5°	817.6	820.4	823.2	825.2	826.1	827.1	828.2	829.2
120°	871.1	874.6	877.9	879.9	880.4	881.1	881.7	882.2
122.5°	924.3	927.4	930.6	932.4	932.9	933.4	933.8	934.3
125°	998.5	1002.0	1005.5	1007.9	1008.9	1010.1	1011.2	1012.3
127.5°	1071.6	1074.0	1076.4	1078.0	1078.7	1079.5	1080.2	1080.9
130°	1116.2	1119.0	1121.9	1123.6	1124.5	1125.4	1126.2	1127.1
132.5°	1160.2	1162.9	1165.6	1167.3	1167.9	1168.5	1169.1	1169.8
135°	1219.9	1222.7	1225.6	1227.6	1229.0	1230.4	1231.8	1233.2
137.5°	1277.7	1280.3	1283.0	1284.6	1285.2	1285.7	1286.2	1286.8
140°	1313.5	1316.2	1318.8	1320.6	1321.6	1322.6	1323.6	1324.5
142.5°	1347.0	1349.2	1351.4	1352.9	1353.6	1354.2	1354.9	1355.4
145°	1395.3	1396.4	1397.5	1398.6	1399.7	1400.8	1402.0	1403.0
147.5°	1437.7	1438.0	1438.4	1438.9	1439.7	1440.3	1441.0	1441.8
150°	1465.6	1465.6	1465.6	1465.7	1466.0	1466.2	1466.6	1466.8
152.5°	1490.0	1490.4	1490.9	1491.0	1490.9	1490.7	1490.5	1490.4
155°	1523.1	1524.2	1525.3	1525.4	1524.6	1523.8	1523.0	1522.2
157.5°	1551.5	1553.0	1554.4	1554.4	1553.0	1551.5	1550.1	1548.7
160°	1569.7	1571.3	1573.0	1573.0	1571.3	1569.7	1568.1	1566.4
162.5°	1584.5	1586.1	1587.7	1587.6	1585.8	1583.9	1582.0	1580.1
165°	1605.2	1607.4	1609.6	1609.4	1607.0	1604.5	1602.1	1599.6
167.5°	1620.4	1622.8	1625.2	1625.1	1622.3	1619.6	1616.8	1614.1
170°	1629.8	1632.0	1634.2	1633.9	1631.2	1628.4	1625.7	1622.9
172.5°	1635.7	1637.9	1640.1	1639.6	1636.7	1633.8	1630.8	1627.8
175°	1642.6	1645.1	1647.6	1647.1	1643.8	1640.5	1637.3	1634.0
177.5°	1645.4	1647.1	1648.9	1648.5	1645.8	1643.2	1640.5	1637.9
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8

(END OF REPORT)