

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: P332802-935

Luminaire Tested: **S124DIW-S795D1560U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332802-935
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-S795D1560U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 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: 7450.1 lumens
Efficiency: N/A
Efficacy: 109.4 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

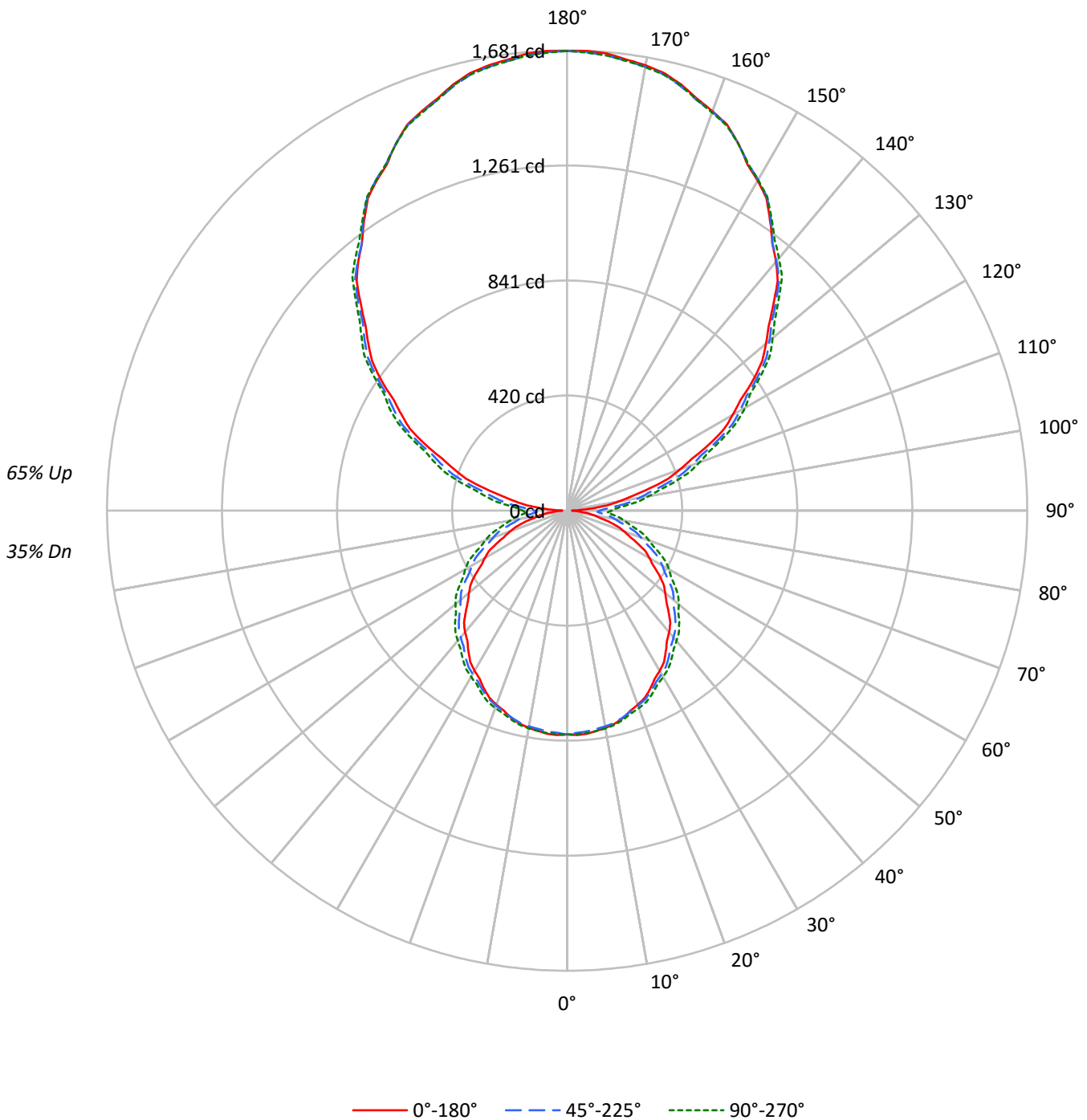
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	81	77	74	64	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	44	41	38	35	32	27	25	24	19
4	70	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	25	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	24	21	18	18	15	13	10
8	51	38	31	26	46	35	28	24	28	23	20	22	18	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6603	6603	6603
5°	6622	6453	6471
10°	6582	6347	6342
15°	6524	6225	6190
20°	6435	6090	6044
25°	6334	5939	5882
30°	6226	5788	5714
35°	6103	5635	5569
40°	6004	5488	5417
45°	5858	5352	5286
50°	5735	5197	5149
55°	5608	5051	4987
60°	5409	4863	4840
65°	5191	4662	4657
70°	4927	4433	4447
75°	4561	4182	4255
80°	4149	3940	4067
85°	3636	3724	3960



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.0
10°-20°	221.9	3.0
20°-30°	335.5	4.5
30°-40°	405.9	5.4
40°-50°	429.2	5.8
50°-60°	403.9	5.4
60°-70°	335.1	4.5
70°-80°	235.4	3.2
80°-90°	138.1	1.9
90°-100°	189.7	2.5
100°-110°	386.5	5.2
110°-120°	595.9	8.0
120°-130°	756.2	10.1
130°-140°	833.9	11.2
140°-150°	812.0	10.9
150°-160°	681.3	9.1
160°-170°	453.3	6.1
170°-180°	158.7	2.1
0°-30°	634.9	8.5
0°-40°	1040.8	14.0
0°-60°	1873.9	25.2
0°-90°	2582.5	34.7
90°-120°	1172.1	15.7
90°-150°	3574.3	48.0
90°-180°	4868.0	65.3
0°-180°	7450.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	818	818	818	818	818	
5°	819	816	810	816	816	78
15°	785	786	783	791	790	221
25°	718	723	726	736	737	331
35°	628	639	648	661	664	393
45°	524	541	559	574	579	405
55°	410	430	457	475	481	365
65°	284	313	344	366	374	281
75°	158	192	230	255	264	168
85°	49	87	128	155	165	52
90°	18	69	119	152	164	15
95°	90	132	178	206	215	96
105°	311	331	370	395	407	330
115°	572	581	606	625	630	564
125°	828	828	849	863	866	738
135°	1065	1073	1079	1091	1093	824
145°	1293	1297	1298	1302	1302	809
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	820.8	820.3	819.8	819.3	818.8	817.9	816.6	815.3	814.0	812.7	813.8
5°	818.7	818.1	817.5	816.9	816.3	815.3	813.8	812.4	811.0	809.6	811.2
7.5°	811.8	811.4	811.1	810.7	810.3	809.5	808.4	807.2	806.0	804.9	806.7
10°	805.9	805.7	805.6	805.3	805.1	804.5	803.5	802.5	801.4	800.4	802.3
12.5°	797.9	797.8	797.8	797.7	797.7	797.4	796.7	795.9	795.2	794.5	796.3
15°	784.9	785.1	785.2	785.5	785.7	785.5	784.9	784.3	783.6	783.0	784.9
17.5°	767.1	767.7	768.3	769.0	769.6	769.7	769.6	769.6	769.4	769.3	771.2
20°	754.7	755.3	755.9	756.5	757.1	757.5	757.7	757.9	758.1	758.3	760.3
22.5°	740.7	741.5	742.3	743.0	743.8	744.4	744.8	745.1	745.5	745.9	747.9
25°	718.0	719.2	720.5	721.7	722.9	723.8	724.4	725.0	725.7	726.3	728.5
27.5°	692.8	694.5	696.3	698.1	699.9	701.3	702.2	703.1	704.0	705.0	707.1
30°	675.9	677.5	679.2	680.8	682.4	683.9	685.4	686.7	688.2	689.6	691.8
32.5°	657.5	659.5	661.5	663.4	665.4	667.1	668.7	670.3	671.9	673.5	676.1
35°	628.3	630.7	633.2	635.6	638.0	640.2	642.3	644.4	646.4	648.4	651.3
37.5°	598.7	601.6	604.4	607.2	610.0	612.7	615.2	617.7	620.3	622.8	625.7
40°	579.7	582.4	585.0	587.6	590.3	593.1	595.9	598.7	601.6	604.4	607.5
42.5°	557.8	560.7	563.7	566.6	569.6	572.7	576.1	579.5	582.8	586.1	589.5
45°	523.8	527.7	531.6	535.5	539.3	543.2	547.1	551.0	554.7	558.6	562.1
47.5°	491.5	495.4	499.4	503.4	507.4	511.6	516.1	520.6	525.0	529.5	533.1
50°	468.0	472.4	476.9	481.4	485.9	490.3	494.8	499.3	503.8	508.2	512.4
52.5°	444.5	449.0	453.5	458.0	462.4	467.3	472.3	477.5	482.7	487.8	491.8
55°	410.3	414.6	418.9	423.1	427.4	432.6	438.7	444.8	450.9	457.0	461.1
57.5°	372.0	377.3	382.6	387.9	393.1	398.8	404.9	411.0	417.1	423.1	427.9
60°	347.1	352.4	357.7	363.0	368.2	374.3	381.0	387.7	394.4	401.1	405.8
62.5°	322.9	328.7	334.5	340.3	346.0	352.3	359.0	365.8	372.5	379.2	383.8
65°	283.9	290.4	297.0	303.4	310.0	316.7	323.6	330.5	337.4	344.3	349.4
67.5°	246.3	253.3	260.2	267.1	274.1	281.2	288.6	296.0	303.4	310.8	316.0
70°	220.7	227.6	234.5	241.5	248.4	255.7	263.5	271.2	278.9	286.6	292.1
72.5°	195.8	202.9	210.0	217.1	224.1	231.8	240.0	248.2	256.5	264.7	270.0
75°	157.6	165.1	172.5	180.1	187.6	195.7	204.2	212.8	221.4	229.9	235.6
77.5°	121.8	129.8	137.8	145.8	153.7	162.2	171.2	180.1	189.1	198.0	203.8
80°	99.8	108.0	116.1	124.2	132.4	140.9	149.9	158.9	167.8	176.8	182.9
82.5°	77.8	86.3	94.8	103.2	111.7	120.5	129.4	138.4	147.3	156.3	162.5
85°	48.6	57.1	65.6	74.2	82.7	91.6	100.7	109.9	119.1	128.2	134.3
87.5°	27.9	36.9	45.8	54.7	63.6	72.8	82.1	91.5	100.9	110.3	116.6
90°	18.5	29.9	41.2	52.5	63.8	75.0	86.0	97.1	108.1	119.2	126.8
92.5°	41.7	52.7	63.6	74.6	85.6	96.2	106.6	116.9	127.3	137.7	144.5
95°	89.8	99.1	108.4	117.7	127.1	136.9	147.2	157.6	168.0	178.3	184.7
97.5°	146.9	154.7	162.6	170.4	178.3	187.5	198.2	208.8	219.4	230.1	236.4
100°	191.8	198.3	204.7	211.2	217.6	226.1	236.6	247.2	257.7	268.2	274.3
102.5°	239.6	244.7	249.8	254.9	260.0	267.6	277.8	287.9	298.1	308.2	314.4
105°	310.7	315.1	319.4	323.8	328.1	334.7	343.4	352.1	360.8	369.5	375.4
107.5°	387.1	390.8	394.5	398.2	401.9	407.3	414.7	422.0	429.3	436.5	442.4
110°	438.3	441.8	445.2	448.6	452.0	457.2	464.0	470.9	477.7	484.5	488.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	491.6	494.3	496.9	499.6	502.1	506.6	512.9	519.2	525.5	531.8	536.1
115°	571.5	573.3	575.2	577.0	578.9	582.7	588.7	594.6	600.5	606.5	610.7
117.5°	647.6	649.0	650.3	651.7	653.0	656.5	662.2	667.8	673.5	679.2	682.4
120°	697.8	699.6	701.4	703.2	704.9	708.3	713.3	718.4	723.4	728.4	731.1
122.5°	750.8	751.4	752.0	752.6	753.1	756.0	761.2	766.4	771.5	776.7	779.8
125°	828.0	827.9	827.7	827.4	827.2	829.6	834.3	839.1	844.0	848.8	852.0
127.5°	898.7	899.4	900.1	900.8	901.4	903.4	906.9	910.3	913.8	917.2	920.3
130°	947.9	948.6	949.2	949.9	950.5	952.4	955.7	959.0	962.3	965.5	968.6
132.5°	998.8	999.2	999.6	1000.1	1000.5	1001.9	1004.3	1006.7	1009.0	1011.4	1014.3
135°	1065.1	1066.9	1068.6	1070.3	1072.0	1073.6	1075.0	1076.4	1077.9	1079.3	1082.0
137.5°	1138.3	1138.9	1139.5	1140.1	1140.7	1141.6	1142.8	1143.9	1145.0	1146.2	1148.5
140°	1187.1	1187.5	1187.9	1188.3	1188.6	1189.0	1189.1	1189.3	1189.6	1189.7	1192.1
142.5°	1231.1	1231.6	1232.1	1232.7	1233.2	1233.3	1233.0	1232.6	1232.3	1231.9	1234.2
145°	1292.7	1293.7	1294.6	1295.5	1296.5	1297.1	1297.4	1297.7	1298.0	1298.2	1299.2
147.5°	1353.9	1355.1	1356.3	1357.5	1358.7	1359.2	1358.9	1358.7	1358.5	1358.2	1358.1
150°	1391.4	1392.3	1393.3	1394.2	1395.2	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1425.9	1426.6	1427.2	1427.9	1428.5	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	814.9	816.1	817.3	817.8	817.6	817.4	817.3	817.1
5°	812.9	814.5	816.1	816.8	816.6	816.4	816.2	816.0
7.5°	808.5	810.3	812.2	813.0	812.8	812.5	812.4	812.2
10°	804.1	805.9	807.8	808.6	808.4	808.1	808.0	807.8
12.5°	797.9	799.6	801.2	802.0	802.0	801.9	801.9	801.8
15°	786.7	788.5	790.3	791.2	791.0	790.7	790.6	790.3
17.5°	773.0	774.9	776.8	777.7	777.5	777.3	777.1	777.0
20°	762.3	764.4	766.5	767.5	767.5	767.5	767.5	767.5
22.5°	749.9	751.9	754.0	755.2	755.5	755.8	756.1	756.5
25°	730.7	733.0	735.2	736.4	736.6	736.8	737.0	737.3
27.5°	709.1	711.2	713.3	714.5	714.7	715.0	715.2	715.4
30°	694.1	696.3	698.5	699.9	700.3	700.7	701.1	701.5
32.5°	678.6	681.2	683.7	685.3	685.6	686.0	686.5	686.9
35°	654.1	656.9	659.8	661.5	662.1	662.7	663.4	664.0
37.5°	628.5	631.5	634.3	636.1	636.7	637.4	638.0	638.7
40°	610.5	613.6	616.6	618.5	619.4	620.2	621.0	621.8
42.5°	592.9	596.2	599.6	601.7	602.3	603.0	603.6	604.2
45°	565.6	569.0	572.5	574.7	575.8	576.8	577.8	578.8
47.5°	536.7	540.3	543.9	546.2	547.5	548.7	549.9	551.1
50°	516.4	520.5	524.5	527.2	528.4	529.7	530.9	532.1
52.5°	495.9	500.0	504.0	506.7	507.9	509.1	510.3	511.6
55°	465.1	469.2	473.3	476.0	477.2	478.4	479.6	480.8
57.5°	432.8	437.6	442.5	445.5	446.6	447.7	448.9	450.0
60°	410.5	415.2	419.8	423.0	424.6	426.3	427.9	429.6
62.5°	388.5	393.2	397.9	401.1	402.7	404.3	405.9	407.5
65°	354.6	359.6	364.7	368.1	369.7	371.3	372.9	374.5
67.5°	321.2	326.3	331.5	334.8	336.5	338.0	339.7	341.2
70°	297.6	303.2	308.7	312.1	313.5	315.0	316.3	317.8
72.5°	275.3	280.7	286.0	289.5	291.0	292.7	294.2	295.8
75°	241.3	246.9	252.7	256.4	258.3	260.1	261.9	263.7
77.5°	209.6	215.3	221.1	225.0	227.0	228.9	230.8	232.8
80°	189.0	195.1	201.2	205.0	206.6	208.3	209.9	211.5
82.5°	168.8	175.0	181.3	185.4	187.1	188.9	190.7	192.5
85°	140.4	146.5	152.7	156.7	158.8	160.7	162.8	164.9
87.5°	122.8	129.1	135.3	139.4	141.3	143.2	145.1	147.0
90°	134.5	142.2	149.7	154.6	156.9	159.1	161.3	163.5
92.5°	151.3	158.0	164.8	169.2	171.2	173.1	175.1	177.1
95°	191.1	197.4	203.8	207.8	209.7	211.5	213.4	215.2
97.5°	242.8	249.2	255.5	259.6	261.3	263.1	264.8	266.6
100°	280.3	286.5	292.5	296.3	297.7	299.1	300.6	302.0
102.5°	320.5	326.6	332.8	336.7	338.5	340.4	342.2	344.0
105°	381.3	387.3	393.2	397.4	399.9	402.4	404.9	407.4
107.5°	448.2	454.0	459.8	463.4	464.9	466.2	467.6	469.1
110°	492.8	496.8	500.9	504.2	506.7	509.2	511.7	514.2



TEST NUMBER: P332802-935

CATALOG NUMBER: S124DIW-S795D1560U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	540.5	544.9	549.3	552.4	554.2	556.0	557.8	559.6
115°	614.8	619.1	623.3	625.9	627.1	628.2	629.3	630.4
117.5°	685.6	688.9	692.2	694.3	695.3	696.4	697.5	698.5
120°	733.7	736.3	739.0	741.4	743.6	745.8	748.0	750.2
122.5°	782.9	786.0	789.1	790.8	791.3	791.7	792.1	792.6
125°	855.3	858.6	861.9	863.8	864.5	865.1	865.8	866.4
127.5°	923.4	926.5	929.6	931.6	932.5	933.4	934.4	935.3
130°	971.6	974.7	977.8	979.4	979.5	979.6	979.6	979.7
132.5°	1017.3	1020.2	1023.0	1024.9	1025.7	1026.5	1027.2	1027.9
135°	1084.7	1087.4	1090.0	1091.5	1091.9	1092.3	1092.6	1093.0
137.5°	1150.6	1152.9	1155.1	1156.8	1158.0	1159.2	1160.4	1161.6
140°	1194.5	1196.8	1199.2	1200.7	1201.4	1202.1	1202.9	1203.6
142.5°	1236.4	1238.6	1241.0	1242.4	1243.3	1244.1	1244.8	1245.7
145°	1300.1	1301.1	1302.0	1302.4	1302.3	1302.3	1302.3	1302.2
147.5°	1358.1	1358.1	1358.0	1358.1	1358.5	1358.8	1359.2	1359.5
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)