

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: P332802-830

Luminaire Tested: **S124DIW-S795D1560U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332802-830
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-S795D1560U830-4F0-1E-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: 8155.7 lumens
Efficiency: N/A
Efficacy: 119.8 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

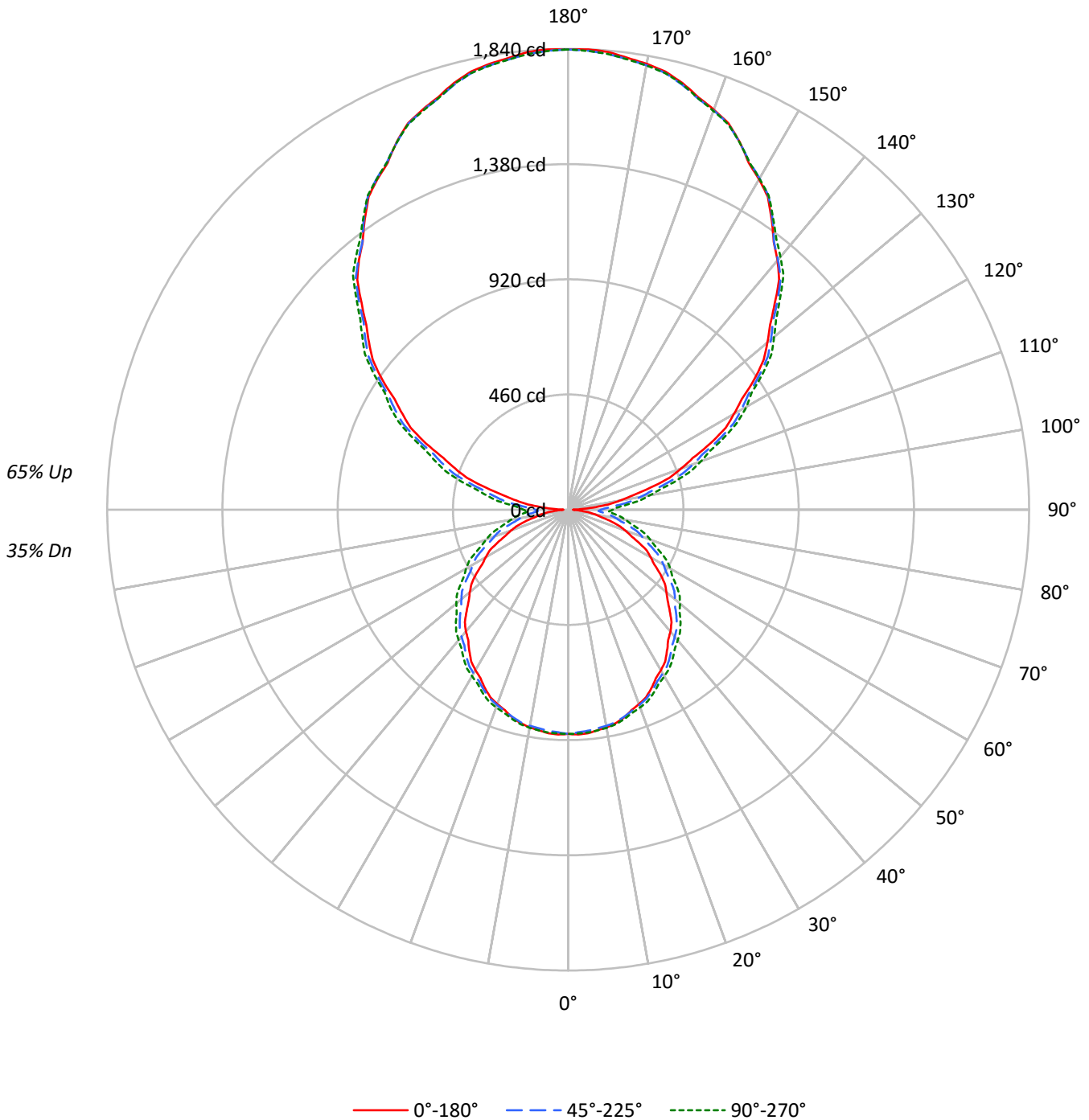
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	7228	7228	7228
5°	7250	7064	7083
10°	7205	6948	6943
15°	7141	6814	6777
20°	7044	6667	6616
25°	6934	6501	6439
30°	6815	6336	6256
35°	6681	6168	6097
40°	6573	6008	5930
45°	6413	5859	5787
50°	6278	5689	5636
55°	6138	5529	5459
60°	5920	5324	5298
65°	5683	5104	5098
70°	5394	4853	4868
75°	4992	4579	4659
80°	4540	4312	4453
85°	3980	4075	4334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.8	1.0
10°-20°	242.9	3.0
20°-30°	367.3	4.5
30°-40°	444.4	5.4
40°-50°	469.8	5.8
50°-60°	442.2	5.4
60°-70°	366.8	4.5
70°-80°	257.7	3.2
80°-90°	151.2	1.9
90°-100°	207.7	2.5
100°-110°	423.1	5.2
110°-120°	652.4	8.0
120°-130°	827.8	10.1
130°-140°	912.9	11.2
140°-150°	888.9	10.9
150°-160°	745.9	9.1
160°-170°	496.2	6.1
170°-180°	173.8	2.1
0°-30°	695.0	8.5
0°-40°	1139.4	14.0
0°-60°	2051.4	25.2
0°-90°	2827.0	34.7
90°-120°	1283.2	15.7
90°-150°	3912.8	48.0
90°-180°	5329.0	65.3
0°-180°	8155.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	895	895	895	895	895	
5°	896	893	886	894	893	85
15°	859	860	857	866	865	242
25°	786	792	795	806	807	362
35°	688	700	710	723	727	431
45°	573	593	612	628	634	443
55°	449	471	500	520	526	400
65°	311	343	377	401	410	308
75°	172	210	252	279	289	183
85°	53	95	140	169	180	57
90°	20	76	130	167	179	16
95°	98	144	195	225	236	105
105°	340	363	404	433	446	362
115°	626	636	664	684	690	617
125°	906	907	929	945	948	808
135°	1166	1174	1182	1194	1196	902
145°	1415	1420	1421	1426	1426	885
155°	1620	1620	1619	1624	1619	745
165°	1764	1760	1757	1764	1759	497
175°	1835	1828	1826	1835	1826	174
180°	1838	1838	1838	1838	1838	



TEST NUMBER: P332802-830

CATALOG NUMBER: S124DIW-S795D1560U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	898.5	898.0	897.4	896.9	896.4	895.4	893.9	892.5	891.1	889.7	890.9
5°	896.3	895.6	894.9	894.3	893.6	892.5	890.9	889.4	887.8	886.3	888.1
7.5°	888.6	888.3	887.9	887.5	887.0	886.2	885.0	883.6	882.3	881.1	883.1
10°	882.2	882.0	881.8	881.6	881.4	880.7	879.6	878.4	877.3	876.2	878.3
12.5°	873.5	873.4	873.4	873.3	873.3	872.9	872.1	871.3	870.5	869.8	871.7
15°	859.2	859.4	859.6	859.9	860.1	859.9	859.2	858.6	857.8	857.1	859.2
17.5°	839.7	840.4	841.0	841.8	842.4	842.6	842.5	842.4	842.3	842.2	844.2
20°	826.1	826.8	827.5	828.1	828.8	829.2	829.4	829.6	829.9	830.1	832.4
22.5°	810.9	811.7	812.6	813.4	814.3	814.9	815.3	815.7	816.1	816.5	818.7
25°	786.0	787.3	788.7	790.0	791.4	792.4	793.1	793.7	794.4	795.0	797.5
27.5°	758.4	760.3	762.2	764.2	766.2	767.7	768.7	769.7	770.7	771.8	774.0
30°	739.9	741.7	743.5	745.3	747.1	748.7	750.3	751.8	753.4	754.9	757.3
32.5°	719.8	722.0	724.2	726.2	728.4	730.3	732.1	733.8	735.6	737.3	740.1
35°	687.8	690.4	693.1	695.8	698.4	700.9	703.1	705.4	707.6	709.8	712.9
37.5°	655.4	658.6	661.7	664.7	667.8	670.7	673.4	676.2	679.0	681.7	684.9
40°	634.6	637.5	640.4	643.3	646.2	649.2	652.3	655.4	658.6	661.7	665.1
42.5°	610.6	613.8	617.1	620.3	623.6	627.0	630.7	634.3	638.0	641.6	645.4
45°	573.4	577.7	581.9	586.2	590.4	594.7	598.9	603.1	607.3	611.5	615.4
47.5°	538.0	542.3	546.7	551.1	555.4	560.1	565.0	569.9	574.8	579.7	583.6
50°	512.3	517.2	522.1	527.0	531.9	536.8	541.7	546.6	551.5	556.4	560.9
52.5°	486.6	491.5	496.4	501.3	506.2	511.5	517.1	522.7	528.4	534.0	538.4
55°	449.1	453.8	458.5	463.2	467.9	473.5	480.2	486.9	493.6	500.3	504.7
57.5°	407.3	413.0	418.9	424.6	430.4	436.6	443.3	449.9	456.6	463.2	468.4
60°	379.9	385.8	391.5	397.4	403.1	409.7	417.1	424.4	431.8	439.1	444.2
62.5°	353.5	359.9	366.2	372.5	378.8	385.7	393.0	400.4	407.7	415.1	420.2
65°	310.8	317.9	325.1	332.2	339.3	346.7	354.2	361.8	369.4	376.9	382.5
67.5°	269.7	277.3	284.8	292.4	300.0	307.8	315.9	324.0	332.2	340.3	345.9
70°	241.6	249.2	256.7	264.4	271.9	279.9	288.4	296.9	305.3	313.8	319.8
72.5°	214.3	222.1	229.9	237.6	245.3	253.7	262.8	271.7	280.8	289.7	295.6
75°	172.5	180.7	188.9	197.2	205.4	214.2	223.6	232.9	242.3	251.7	257.9
77.5°	133.4	142.0	150.8	159.6	168.2	177.6	187.4	197.2	207.0	216.8	223.1
80°	109.2	118.2	127.1	136.0	145.0	154.3	164.1	173.9	183.7	193.5	200.2
82.5°	85.2	94.4	103.8	113.0	122.2	131.9	141.7	151.5	161.3	171.1	177.9
85°	53.2	62.5	71.8	81.2	90.6	100.3	110.3	120.3	130.4	140.3	147.0
87.5°	30.5	40.3	50.1	59.9	69.7	79.6	89.9	100.2	110.5	120.7	127.6
90°	20.3	32.7	45.1	57.5	69.8	82.1	94.2	106.3	118.4	130.5	138.8
92.5°	45.6	57.7	69.7	81.6	93.7	105.3	116.7	128.0	139.4	150.7	158.2
95°	98.3	108.5	118.7	128.8	139.1	149.9	161.2	172.6	183.9	195.2	202.2
97.5°	160.8	169.4	178.0	186.5	195.2	205.3	217.0	228.6	240.2	251.8	258.8
100°	210.0	217.1	224.1	231.2	238.2	247.5	259.0	270.6	282.1	293.6	300.3
102.5°	262.3	267.9	273.4	279.1	284.6	292.9	304.1	315.2	326.3	337.3	344.1
105°	340.2	345.0	349.7	354.5	359.2	366.4	375.9	385.4	394.9	404.4	410.9
107.5°	423.8	427.8	431.9	435.9	440.0	445.9	453.9	461.9	470.0	477.9	484.3
110°	479.8	483.6	487.4	491.1	494.8	500.5	507.9	515.5	522.9	530.4	534.9



TEST NUMBER: P332802-830

CATALOG NUMBER: S124DIW-S795D1560U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	538.2	541.1	543.9	546.9	549.7	554.6	561.5	568.4	575.2	582.1	586.9
115°	625.7	627.6	629.7	631.7	633.7	637.9	644.4	650.9	657.4	663.9	668.5
117.5°	709.0	710.5	711.9	713.4	714.8	718.7	724.9	731.0	737.3	743.5	747.1
120°	763.9	765.9	767.8	769.8	771.7	775.4	780.9	786.5	791.9	797.4	800.3
122.5°	821.9	822.6	823.2	823.9	824.4	827.6	833.3	839.0	844.6	850.3	853.7
125°	906.4	906.3	906.1	905.8	905.6	908.1	913.3	918.6	923.9	929.2	932.7
127.5°	983.8	984.6	985.3	986.1	986.7	989.0	992.8	996.6	1000.3	1004.1	1007.5
130°	1037.6	1038.4	1039.1	1039.8	1040.6	1042.6	1046.2	1049.8	1053.4	1057.0	1060.4
132.5°	1093.3	1093.8	1094.3	1094.8	1095.2	1096.7	1099.4	1102.0	1104.6	1107.2	1110.4
135°	1165.9	1167.9	1169.8	1171.7	1173.6	1175.3	1176.9	1178.4	1180.0	1181.5	1184.5
137.5°	1246.1	1246.8	1247.5	1248.1	1248.8	1249.7	1251.0	1252.3	1253.5	1254.8	1257.3
140°	1299.6	1300.0	1300.4	1300.8	1301.2	1301.6	1301.7	1301.9	1302.2	1302.4	1305.0
142.5°	1347.6	1348.2	1348.8	1349.4	1350.0	1350.1	1349.7	1349.3	1349.0	1348.6	1351.0
145°	1415.1	1416.2	1417.2	1418.2	1419.3	1419.9	1420.2	1420.6	1420.9	1421.2	1422.2
147.5°	1482.1	1483.5	1484.8	1486.0	1487.3	1487.9	1487.6	1487.3	1487.1	1486.9	1486.8
150°	1523.1	1524.2	1525.2	1526.3	1527.3	1527.8	1527.8	1527.8	1527.8	1527.8	1527.8
152.5°	1560.9	1561.7	1562.4	1563.1	1563.8	1564.3	1564.5	1564.8	1565.1	1565.3	1566.0
155°	1620.1	1620.1	1620.1	1620.1	1620.1	1620.0	1619.7	1619.4	1619.1	1618.7	1620.0
157.5°	1670.2	1669.6	1669.1	1668.5	1667.9	1667.6	1667.5	1667.5	1667.5	1667.4	1668.3
160°	1699.8	1699.4	1699.1	1698.8	1698.5	1698.2	1697.9	1697.5	1697.2	1697.0	1697.9
162.5°	1727.0	1726.3	1725.4	1724.6	1723.7	1723.2	1722.9	1722.6	1722.2	1721.9	1723.6
165°	1763.7	1762.7	1761.8	1760.9	1759.9	1759.2	1758.5	1757.8	1757.3	1756.6	1758.5
167.5°	1791.9	1790.5	1789.2	1787.9	1786.6	1785.9	1786.0	1786.0	1786.1	1786.2	1788.1
170°	1807.8	1806.2	1804.6	1803.0	1801.5	1800.8	1801.1	1801.5	1801.8	1802.0	1803.9
172.5°	1819.1	1817.8	1816.5	1815.1	1813.8	1813.2	1813.3	1813.4	1813.4	1813.5	1815.6
175°	1834.8	1833.2	1831.6	1830.0	1828.4	1827.5	1827.2	1826.8	1826.6	1826.3	1828.4
177.5°	1839.8	1838.6	1837.4	1836.1	1834.8	1834.2	1834.2	1834.2	1834.2	1834.2	1836.0
180°	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6



TEST NUMBER: P332802-830

CATALOG NUMBER: S124DIW-S795D1560U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	892.1	893.4	894.7	895.2	895.0	894.8	894.7	894.5
5°	889.9	891.6	893.3	894.2	893.9	893.7	893.5	893.2
7.5°	885.0	887.0	889.1	889.9	889.8	889.5	889.3	889.1
10°	880.2	882.2	884.3	885.1	885.0	884.7	884.5	884.3
12.5°	873.5	875.3	877.1	878.0	878.0	877.9	877.9	877.8
15°	861.2	863.2	865.2	866.1	865.9	865.6	865.4	865.2
17.5°	846.2	848.3	850.4	851.3	851.1	850.9	850.7	850.6
20°	834.5	836.8	839.1	840.2	840.2	840.2	840.2	840.2
22.5°	821.0	823.1	825.4	826.7	827.1	827.4	827.7	828.1
25°	799.9	802.4	804.8	806.2	806.3	806.6	806.8	807.1
27.5°	776.3	778.5	780.9	782.1	782.4	782.7	783.0	783.2
30°	759.8	762.2	764.7	766.2	766.7	767.0	767.5	768.0
32.5°	742.9	745.7	748.5	750.2	750.5	751.0	751.5	752.0
35°	716.0	719.2	722.3	724.2	724.8	725.5	726.2	726.9
37.5°	688.1	691.3	694.4	696.4	697.0	697.8	698.4	699.2
40°	668.4	671.8	675.0	677.1	678.1	678.9	679.9	680.7
42.5°	649.0	652.7	656.4	658.6	659.3	660.1	660.8	661.5
45°	619.2	622.9	626.7	629.1	630.3	631.4	632.5	633.6
47.5°	587.5	591.4	595.4	597.9	599.4	600.7	602.0	603.3
50°	565.3	569.8	574.2	577.1	578.4	579.9	581.2	582.5
52.5°	542.9	547.3	551.8	554.7	556.0	557.3	558.6	560.1
55°	509.2	513.7	518.1	521.0	522.4	523.7	525.0	526.3
57.5°	473.8	479.1	484.4	487.7	488.9	490.1	491.4	492.7
60°	449.4	454.5	459.6	463.1	464.9	466.7	468.4	470.2
62.5°	425.3	430.5	435.5	439.0	440.8	442.6	444.3	446.1
65°	388.1	393.7	399.3	402.9	404.7	406.5	408.2	410.0
67.5°	351.6	357.2	362.9	366.6	368.3	370.0	371.8	373.5
70°	325.8	331.9	337.9	341.7	343.2	344.8	346.3	347.9
72.5°	301.4	307.3	313.1	316.9	318.6	320.4	322.1	323.9
75°	264.1	270.3	276.6	280.7	282.8	284.7	286.7	288.7
77.5°	229.4	235.7	242.0	246.3	248.5	250.5	252.7	254.9
80°	206.9	213.6	220.3	224.4	226.2	228.0	229.8	231.6
82.5°	184.7	191.6	198.5	202.9	204.8	206.8	208.8	210.8
85°	153.7	160.4	167.1	171.5	173.8	176.0	178.2	180.5
87.5°	134.4	141.3	148.1	152.6	154.7	156.7	158.8	160.9
90°	147.2	155.6	163.9	169.3	171.7	174.2	176.5	179.0
92.5°	165.6	173.0	180.4	185.2	187.4	189.5	191.7	193.9
95°	209.2	216.1	223.1	227.5	229.6	231.6	233.6	235.6
97.5°	265.8	272.8	279.7	284.2	286.1	288.0	289.9	291.8
100°	306.9	313.6	320.2	324.3	325.9	327.4	329.0	330.5
102.5°	350.8	357.5	364.3	368.6	370.6	372.6	374.6	376.5
105°	417.5	424.0	430.5	435.1	437.8	440.5	443.3	446.0
107.5°	490.6	497.0	503.3	507.3	508.9	510.4	511.9	513.5
110°	539.4	543.8	548.4	552.0	554.7	557.4	560.2	562.9



TEST NUMBER: P332802-830

CATALOG NUMBER: S124DIW-S795D1560U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	591.7	596.5	601.3	604.7	606.7	608.7	610.7	612.7
115°	673.1	677.7	682.3	685.1	686.5	687.7	688.9	690.1
117.5°	750.5	754.1	757.7	760.1	761.2	762.3	763.6	764.7
120°	803.2	806.1	809.0	811.6	814.0	816.4	818.8	821.2
122.5°	857.1	860.4	863.8	865.7	866.2	866.7	867.1	867.6
125°	936.3	939.9	943.5	945.7	946.4	947.1	947.8	948.5
127.5°	1010.9	1014.3	1017.7	1019.8	1020.9	1021.8	1022.8	1023.9
130°	1063.7	1067.1	1070.4	1072.1	1072.2	1072.3	1072.4	1072.5
132.5°	1113.6	1116.8	1119.9	1122.0	1122.9	1123.7	1124.5	1125.3
135°	1187.4	1190.3	1193.3	1194.9	1195.3	1195.7	1196.1	1196.5
137.5°	1259.6	1262.1	1264.5	1266.4	1267.7	1268.9	1270.3	1271.6
140°	1307.6	1310.1	1312.8	1314.4	1315.2	1316.0	1316.8	1317.6
142.5°	1353.5	1355.9	1358.5	1360.1	1361.0	1361.9	1362.7	1363.7
145°	1423.2	1424.3	1425.3	1425.8	1425.7	1425.7	1425.6	1425.5
147.5°	1486.7	1486.7	1486.6	1486.8	1487.1	1487.5	1487.9	1488.3
150°	1527.8	1527.8	1527.8	1527.7	1527.3	1527.0	1526.7	1526.4
152.5°	1566.8	1567.5	1568.3	1568.3	1567.4	1566.7	1565.8	1565.0
155°	1621.3	1622.5	1623.8	1623.8	1622.5	1621.3	1620.0	1618.7
157.5°	1669.2	1670.2	1671.1	1671.0	1670.0	1669.0	1667.8	1666.8
160°	1698.8	1699.8	1700.7	1700.3	1698.8	1697.2	1695.6	1694.0
162.5°	1725.3	1727.0	1728.7	1728.8	1727.2	1725.7	1724.1	1722.5
165°	1760.4	1762.3	1764.2	1764.5	1763.2	1762.0	1760.7	1759.4
167.5°	1790.0	1791.9	1793.8	1793.8	1791.8	1789.8	1787.8	1785.8
170°	1805.9	1807.8	1809.7	1809.5	1807.3	1805.1	1802.9	1800.6
172.5°	1817.8	1819.9	1822.0	1822.0	1819.8	1817.6	1815.3	1813.2
175°	1830.7	1832.9	1835.1	1835.1	1832.9	1830.7	1828.4	1826.3
177.5°	1837.8	1839.5	1841.3	1841.2	1839.1	1837.1	1835.1	1833.1
180°	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6

(END OF REPORT)