

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: P332802-840

Luminaire Tested: **S124DIW-S795D1560U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332802-840
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-S795D1560U840-4F0-1E-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: 8738.3 lumens
Efficiency: N/A
Efficacy: 128.3 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

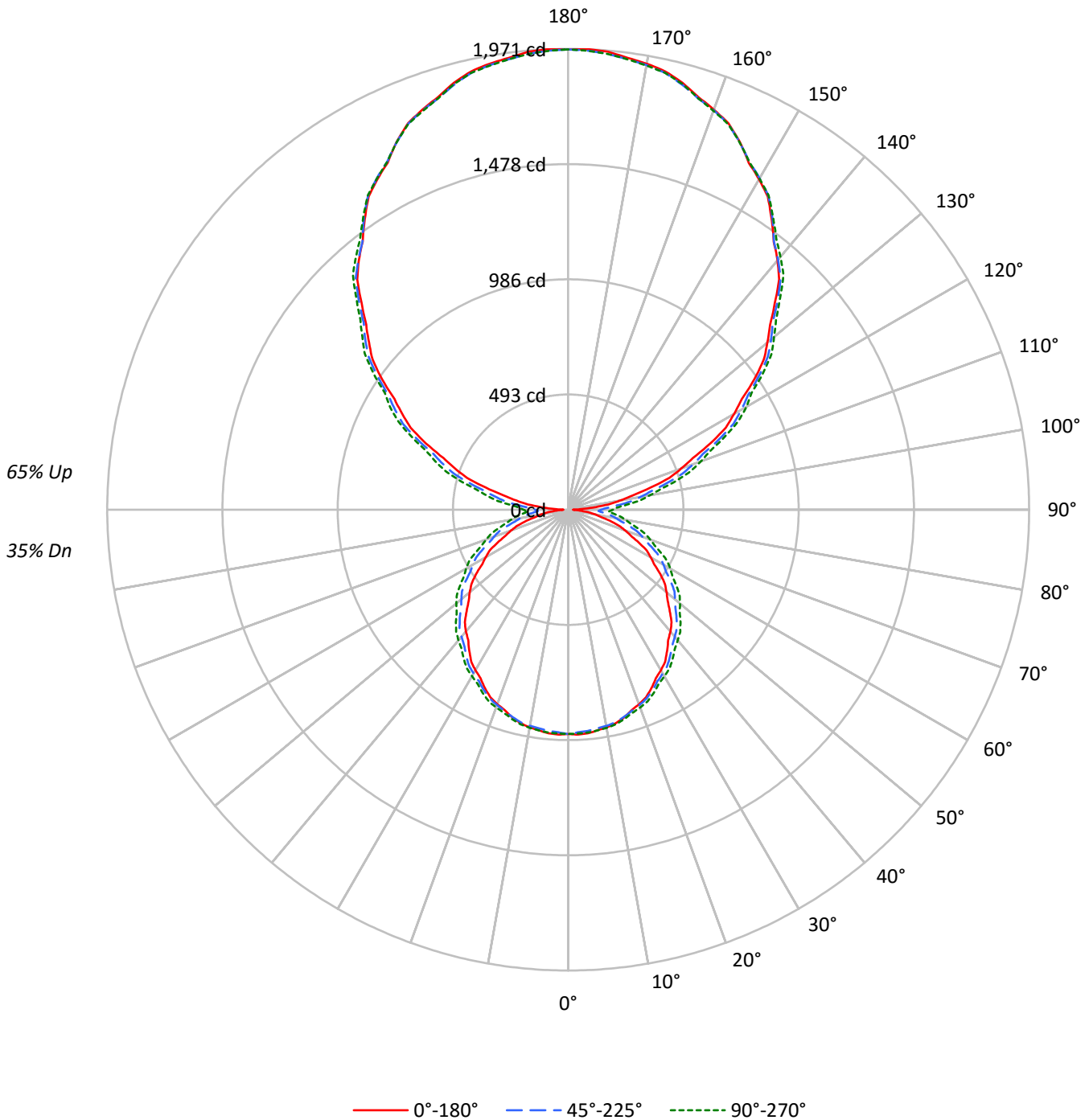
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7744	7744	7744
5°	7768	7569	7589
10°	7720	7444	7439
15°	7651	7301	7261
20°	7547	7143	7089
25°	7429	6965	6898
30°	7302	6789	6703
35°	7158	6609	6532
40°	7042	6436	6353
45°	6871	6278	6200
50°	6727	6095	6039
55°	6577	5924	5849
60°	6344	5704	5676
65°	6089	5468	5463
70°	5778	5200	5215
75°	5348	4904	4991
80°	4865	4620	4771
85°	4264	4369	4644



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.8	1.0
10°-20°	260.3	3.0
20°-30°	393.5	4.5
30°-40°	476.1	5.4
40°-50°	503.4	5.8
50°-60°	473.7	5.4
60°-70°	393.1	4.5
70°-80°	276.1	3.2
80°-90°	162.0	1.9
90°-100°	222.5	2.5
100°-110°	453.3	5.2
110°-120°	699.0	8.0
120°-130°	886.9	10.1
130°-140°	978.1	11.2
140°-150°	952.4	10.9
150°-160°	799.2	9.1
160°-170°	531.7	6.1
170°-180°	186.2	2.1
0°-30°	744.6	8.5
0°-40°	1220.8	14.0
0°-60°	2197.9	25.2
0°-90°	3029.0	34.7
90°-120°	1374.8	15.7
90°-150°	4192.3	48.0
90°-180°	5709.0	65.3
0°-180°	8738.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	959	959	959	959	959	
5°	960	957	950	958	957	91
15°	921	921	918	928	927	259
25°	842	848	852	863	865	388
35°	737	750	760	775	779	461
45°	614	635	655	673	679	475
55°	481	504	536	557	564	429
65°	333	368	404	430	439	330
75°	185	225	270	299	309	196
85°	57	102	150	181	193	61
90°	22	81	140	178	192	17
95°	105	155	209	241	252	113
105°	364	389	433	464	478	387
115°	670	681	711	733	739	661
125°	971	972	996	1012	1016	866
135°	1249	1258	1266	1279	1282	966
145°	1516	1521	1523	1527	1527	949
155°	1736	1736	1734	1740	1734	798
165°	1890	1885	1882	1890	1885	532
175°	1966	1958	1957	1966	1957	187
180°	1969	1969	1969	1969	1969	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	962.7	962.1	961.5	961.0	960.4	959.4	957.8	956.2	954.7	953.2	954.5
5°	960.3	959.6	958.9	958.2	957.5	956.2	954.5	952.9	951.2	949.6	951.5
7.5°	952.1	951.7	951.3	950.9	950.4	949.5	948.2	946.7	945.3	944.0	946.1
10°	945.2	945.0	944.8	944.5	944.3	943.6	942.4	941.2	940.0	938.8	941.0
12.5°	935.8	935.7	935.7	935.6	935.6	935.2	934.4	933.5	932.7	931.9	933.9
15°	920.6	920.8	921.0	921.3	921.5	921.3	920.6	919.9	919.1	918.4	920.6
17.5°	899.7	900.4	901.1	901.9	902.6	902.8	902.7	902.6	902.4	902.3	904.5
20°	885.1	885.9	886.6	887.3	888.0	888.5	888.7	888.9	889.2	889.4	891.8
22.5°	868.8	869.7	870.6	871.5	872.4	873.1	873.5	873.9	874.3	874.8	877.2
25°	842.1	843.5	845.1	846.5	847.9	849.0	849.7	850.4	851.1	851.8	854.4
27.5°	812.5	814.6	816.7	818.8	820.9	822.5	823.6	824.7	825.8	826.9	829.3
30°	792.7	794.7	796.6	798.5	800.4	802.1	803.9	805.5	807.2	808.8	811.4
32.5°	771.2	773.6	775.9	778.1	780.4	782.4	784.4	786.2	788.1	789.9	792.9
35°	736.9	739.7	742.7	745.5	748.3	750.9	753.4	755.8	758.1	760.5	763.9
37.5°	702.3	705.6	708.9	712.2	715.5	718.6	721.5	724.5	727.5	730.4	733.9
40°	679.9	683.1	686.1	689.2	692.4	695.6	698.9	702.3	705.6	708.9	712.6
42.5°	654.2	657.6	661.2	664.6	668.1	671.8	675.7	679.6	683.6	687.4	691.5
45°	614.4	618.9	623.5	628.0	632.6	637.1	641.7	646.2	650.7	655.2	659.3
47.5°	576.4	581.1	585.7	590.5	595.1	600.1	605.3	610.6	615.8	621.1	625.3
50°	548.9	554.1	559.4	564.6	569.9	575.1	580.4	585.6	590.9	596.1	601.0
52.5°	521.4	526.6	531.9	537.1	542.4	548.1	554.0	560.1	566.1	572.1	576.8
55°	481.2	486.3	491.3	496.2	501.3	507.4	514.5	521.7	528.9	536.0	540.8
57.5°	436.4	442.5	448.8	454.9	461.1	467.8	474.9	482.0	489.2	496.2	501.9
60°	407.1	413.3	419.5	425.8	431.9	439.0	446.9	454.7	462.6	470.5	475.9
62.5°	378.7	385.6	392.3	399.1	405.9	413.2	421.1	429.0	436.9	444.7	450.2
65°	333.0	340.6	348.3	355.9	363.6	371.4	379.5	387.7	395.8	403.8	409.8
67.5°	288.9	297.1	305.2	313.3	321.4	329.8	338.5	347.2	355.9	364.6	370.6
70°	258.8	267.0	275.1	283.3	291.3	299.9	309.0	318.1	327.1	336.2	342.6
72.5°	229.6	237.9	246.3	254.6	262.9	271.9	281.6	291.1	300.8	310.4	316.7
75°	184.8	193.6	202.4	211.3	220.0	229.5	239.5	249.5	259.6	269.6	276.3
77.5°	142.9	152.2	161.6	171.0	180.3	190.3	200.8	211.3	221.8	232.3	239.0
80°	117.0	126.6	136.1	145.7	155.3	165.3	175.8	186.3	196.8	207.3	214.5
82.5°	91.3	101.2	111.2	121.1	131.0	141.3	151.8	162.3	172.8	183.3	190.6
85°	57.0	67.0	77.0	87.1	97.0	107.4	118.2	128.9	139.7	150.4	157.5
87.5°	32.7	43.2	53.7	64.1	74.6	85.3	96.3	107.3	118.4	129.4	136.7
90°	21.7	35.0	48.3	61.6	74.8	88.0	100.9	113.9	126.8	139.9	148.8
92.5°	48.9	61.8	74.6	87.5	100.4	112.8	125.0	137.1	149.4	161.5	169.5
95°	105.3	116.2	127.1	138.0	149.1	160.6	172.7	184.9	197.0	209.1	216.6
97.5°	172.3	181.5	190.7	199.9	209.1	219.9	232.5	244.9	257.3	269.8	277.3
100°	225.0	232.6	240.1	247.7	255.2	265.2	277.5	289.9	302.3	314.6	321.7
102.5°	281.0	287.0	293.0	299.0	305.0	313.9	325.8	337.7	349.6	361.4	368.7
105°	364.5	369.6	374.7	379.8	384.9	392.5	402.7	412.9	423.1	433.3	440.3
107.5°	454.0	458.4	462.7	467.1	471.4	477.8	486.4	494.9	503.5	512.0	518.9
110°	514.1	518.2	522.2	526.1	530.2	536.2	544.2	552.3	560.3	568.3	573.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	576.6	579.8	582.8	585.9	589.0	594.2	601.6	608.9	616.3	623.7	628.8
115°	670.3	672.5	674.7	676.8	678.9	683.5	690.4	697.4	704.4	711.3	716.3
117.5°	759.6	761.2	762.8	764.4	765.9	770.0	776.7	783.3	789.9	796.6	800.4
120°	818.5	820.6	822.6	824.8	826.8	830.8	836.7	842.6	848.5	854.3	857.5
122.5°	880.6	881.3	882.0	882.7	883.3	886.8	892.8	898.9	904.9	911.0	914.6
125°	971.2	971.0	970.8	970.5	970.3	973.0	978.6	984.2	989.9	995.5	999.4
127.5°	1054.1	1054.9	1055.7	1056.5	1057.2	1059.7	1063.7	1067.7	1071.8	1075.8	1079.4
130°	1111.8	1112.6	1113.3	1114.1	1114.9	1117.1	1121.0	1124.8	1128.6	1132.5	1136.1
132.5°	1171.4	1171.9	1172.5	1173.0	1173.5	1175.1	1177.9	1180.7	1183.5	1186.3	1189.7
135°	1249.2	1251.3	1253.3	1255.4	1257.4	1259.2	1260.9	1262.5	1264.3	1265.9	1269.1
137.5°	1335.1	1335.8	1336.6	1337.3	1338.0	1339.0	1340.4	1341.7	1343.0	1344.4	1347.1
140°	1392.4	1392.8	1393.3	1393.7	1394.1	1394.5	1394.7	1394.9	1395.2	1395.4	1398.2
142.5°	1443.9	1444.5	1445.1	1445.8	1446.4	1446.5	1446.1	1445.7	1445.3	1444.9	1447.5
145°	1516.2	1517.3	1518.4	1519.5	1520.7	1521.4	1521.7	1522.1	1522.4	1522.7	1523.8
147.5°	1588.0	1589.4	1590.8	1592.2	1593.6	1594.2	1593.9	1593.6	1593.4	1593.1	1593.0
150°	1631.9	1633.1	1634.2	1635.3	1636.4	1636.9	1636.9	1636.9	1636.9	1636.9	1636.9
152.5°	1672.4	1673.2	1674.0	1674.8	1675.5	1676.1	1676.3	1676.6	1676.9	1677.1	1677.9
155°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.8	1735.4	1735.0	1734.7	1734.3	1735.8
157.5°	1789.5	1788.9	1788.3	1787.7	1787.1	1786.8	1786.7	1786.6	1786.6	1786.5	1787.5
160°	1821.2	1820.8	1820.5	1820.2	1819.8	1819.5	1819.2	1818.8	1818.5	1818.2	1819.2
162.5°	1850.4	1849.6	1848.7	1847.8	1846.8	1846.2	1845.9	1845.6	1845.2	1844.9	1846.7
165°	1889.7	1888.6	1887.6	1886.6	1885.6	1884.8	1884.1	1883.4	1882.8	1882.1	1884.1
167.5°	1919.9	1918.4	1917.0	1915.6	1914.2	1913.5	1913.6	1913.6	1913.7	1913.8	1915.8
170°	1936.9	1935.2	1933.5	1931.8	1930.2	1929.4	1929.8	1930.2	1930.5	1930.8	1932.8
172.5°	1949.0	1947.6	1946.2	1944.8	1943.4	1942.7	1942.8	1942.9	1942.9	1943.0	1945.3
175°	1965.8	1964.1	1962.5	1960.8	1959.0	1958.0	1957.7	1957.3	1957.0	1956.7	1959.0
177.5°	1971.3	1969.9	1968.6	1967.2	1965.9	1965.2	1965.2	1965.2	1965.2	1965.2	1967.1
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	955.8	957.3	958.6	959.2	959.0	958.8	958.6	958.4
5°	953.4	955.3	957.2	958.1	957.8	957.6	957.4	957.0
7.5°	948.3	950.4	952.6	953.5	953.3	953.0	952.8	952.6
10°	943.1	945.2	947.5	948.4	948.2	947.9	947.7	947.5
12.5°	935.8	937.9	939.8	940.7	940.7	940.6	940.6	940.5
15°	922.7	924.8	927.0	928.0	927.8	927.5	927.3	927.0
17.5°	906.7	908.9	911.1	912.1	911.9	911.7	911.5	911.3
20°	894.1	896.6	899.0	900.2	900.2	900.2	900.2	900.2
22.5°	879.6	881.9	884.3	885.8	886.2	886.5	886.9	887.3
25°	857.1	859.7	862.3	863.7	863.9	864.2	864.4	864.7
27.5°	831.7	834.1	836.7	838.0	838.3	838.6	838.9	839.1
30°	814.1	816.7	819.3	820.9	821.4	821.8	822.3	822.8
32.5°	796.0	799.0	801.9	803.8	804.2	804.7	805.2	805.7
35°	767.2	770.5	773.9	775.9	776.6	777.3	778.1	778.8
37.5°	737.2	740.6	744.0	746.1	746.8	747.6	748.3	749.1
40°	716.1	719.7	723.3	725.5	726.5	727.4	728.4	729.3
42.5°	695.4	699.3	703.3	705.7	706.4	707.2	708.0	708.7
45°	663.4	667.4	671.5	674.1	675.3	676.5	677.7	678.8
47.5°	629.4	633.7	637.9	640.7	642.2	643.6	645.0	646.4
50°	605.7	610.5	615.2	618.3	619.8	621.3	622.7	624.1
52.5°	581.7	586.4	591.2	594.3	595.7	597.1	598.5	600.1
55°	545.5	550.4	555.1	558.3	559.7	561.1	562.5	563.9
57.5°	507.7	513.3	519.0	522.5	523.8	525.1	526.5	527.9
60°	481.5	487.0	492.4	496.1	498.1	500.0	501.9	503.8
62.5°	455.7	461.2	466.7	470.4	472.3	474.2	476.1	478.0
65°	415.9	421.8	427.8	431.7	433.6	435.6	437.4	439.3
67.5°	376.7	382.7	388.8	392.7	394.7	396.5	398.4	400.2
70°	349.1	355.6	362.0	366.1	367.7	369.4	371.0	372.7
72.5°	323.0	329.2	335.5	339.5	341.3	343.3	345.1	347.0
75°	283.0	289.6	296.4	300.7	303.0	305.1	307.2	309.3
77.5°	245.8	252.6	259.3	263.9	266.2	268.4	270.7	273.1
80°	221.7	228.8	236.0	240.4	242.4	244.3	246.2	248.1
82.5°	197.9	205.3	212.7	217.4	219.4	221.6	223.7	225.8
85°	164.7	171.9	179.0	183.8	186.2	188.5	191.0	193.4
87.5°	144.0	151.4	158.6	163.5	165.7	167.9	170.2	172.4
90°	157.7	166.7	175.6	181.4	184.0	186.6	189.1	191.8
92.5°	177.4	185.3	193.3	198.4	200.8	203.1	205.4	207.7
95°	224.1	231.6	239.0	243.8	246.0	248.1	250.2	252.5
97.5°	284.8	292.3	299.7	304.5	306.5	308.6	310.6	312.7
100°	328.8	336.0	343.1	347.5	349.2	350.8	352.5	354.2
102.5°	375.9	383.0	390.3	395.0	397.1	399.2	401.3	403.4
105°	447.3	454.2	461.2	466.2	469.1	472.0	474.9	477.9
107.5°	525.6	532.5	539.3	543.5	545.2	546.8	548.5	550.2
110°	577.9	582.7	587.5	591.4	594.3	597.2	600.2	603.1



TEST NUMBER: P332802-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	634.0	639.1	644.3	647.9	650.1	652.2	654.3	656.4
115°	721.1	726.1	731.0	734.1	735.5	736.8	738.1	739.4
117.5°	804.2	808.0	811.8	814.4	815.6	816.8	818.1	819.3
120°	860.6	863.6	866.8	869.6	872.1	874.7	877.3	879.9
122.5°	918.3	921.9	925.5	927.6	928.1	928.6	929.1	929.6
125°	1003.2	1007.0	1010.9	1013.2	1014.0	1014.7	1015.5	1016.2
127.5°	1083.1	1086.7	1090.4	1092.7	1093.8	1094.8	1095.9	1097.0
130°	1139.6	1143.3	1146.9	1148.7	1148.8	1148.9	1149.0	1149.1
132.5°	1193.2	1196.6	1199.9	1202.1	1203.1	1204.0	1204.8	1205.7
135°	1272.2	1275.4	1278.5	1280.2	1280.7	1281.1	1281.5	1281.9
137.5°	1349.6	1352.2	1354.8	1356.9	1358.3	1359.6	1361.0	1362.4
140°	1401.0	1403.7	1406.5	1408.3	1409.2	1410.0	1410.9	1411.7
142.5°	1450.2	1452.8	1455.5	1457.2	1458.2	1459.2	1460.1	1461.1
145°	1524.9	1526.0	1527.1	1527.6	1527.5	1527.5	1527.4	1527.3
147.5°	1592.9	1592.9	1592.8	1593.0	1593.4	1593.8	1594.2	1594.6
150°	1636.9	1636.9	1636.9	1636.8	1636.4	1636.1	1635.8	1635.4
152.5°	1678.7	1679.5	1680.3	1680.3	1679.4	1678.6	1677.7	1676.8
155°	1737.1	1738.4	1739.8	1739.8	1738.4	1737.1	1735.8	1734.3
157.5°	1788.5	1789.5	1790.5	1790.4	1789.3	1788.2	1787.0	1785.8
160°	1820.2	1821.2	1822.2	1821.8	1820.2	1818.5	1816.7	1815.0
162.5°	1848.6	1850.4	1852.2	1852.3	1850.6	1849.0	1847.2	1845.5
165°	1886.1	1888.1	1890.2	1890.6	1889.2	1887.8	1886.4	1885.1
167.5°	1917.8	1919.9	1921.9	1921.9	1919.8	1917.6	1915.5	1913.4
170°	1934.9	1936.9	1938.9	1938.7	1936.4	1934.0	1931.7	1929.2
172.5°	1947.6	1949.8	1952.2	1952.2	1949.7	1947.4	1945.0	1942.7
175°	1961.5	1963.8	1966.2	1966.2	1963.8	1961.5	1959.0	1956.7
177.5°	1969.0	1970.9	1972.8	1972.7	1970.4	1968.3	1966.2	1964.0
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8

(END OF REPORT)