

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: P332801-940

Luminaire Tested: **S124DIW-S795D1560U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332801-940  
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-S795D1560U940-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 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: 8454.0 lumens  
Efficiency: N/A  
Efficacy: 124.1 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

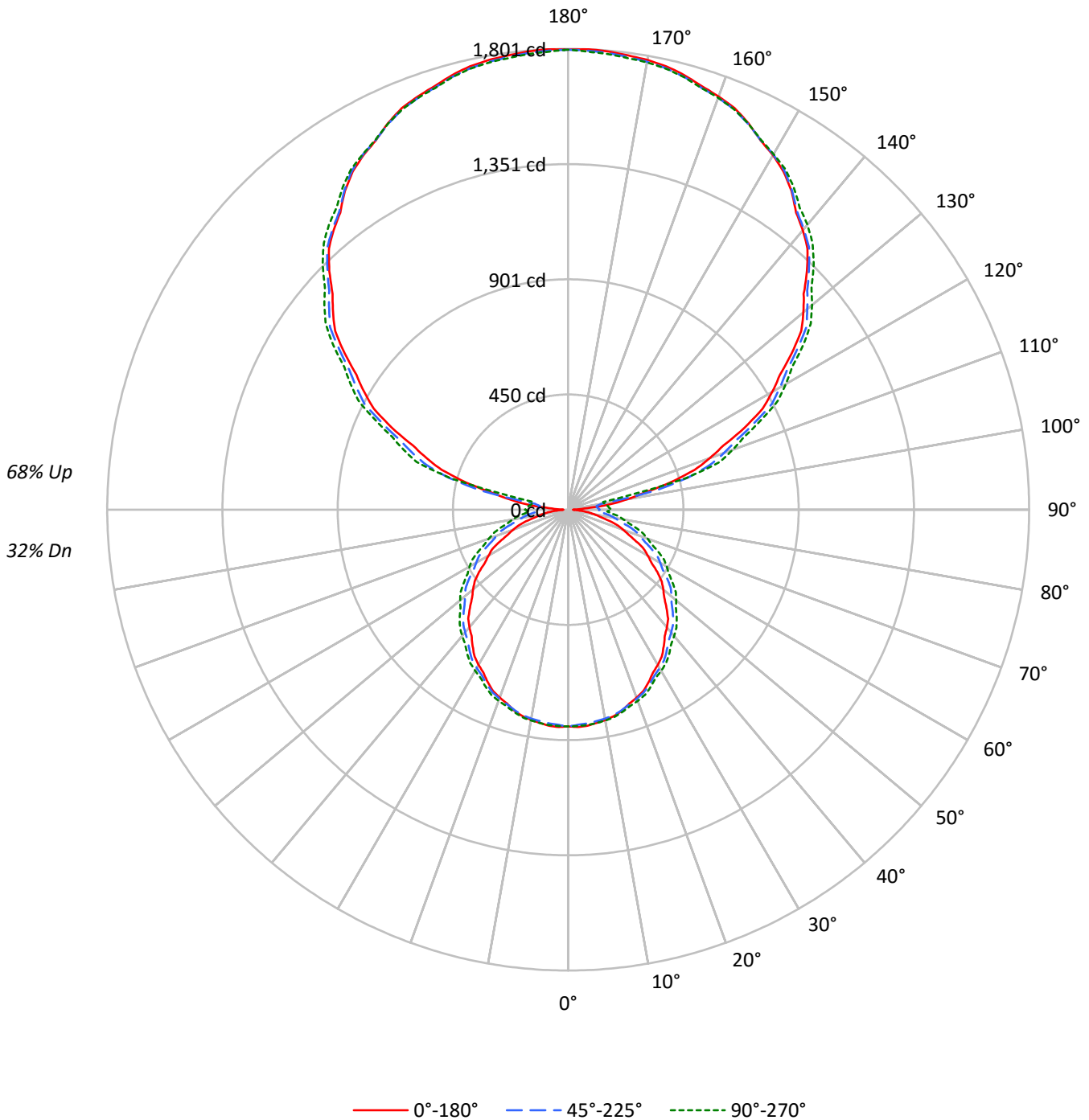
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332801-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332801-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-D

**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	92	92	92	92	73	73	73	55	55	55	39	39	39	32
1	93	89	85	81	83	80	76	73	63	61	59	48	46	45	34	33	32	25
2	84	77	71	65	76	69	64	59	55	51	48	41	39	37	29	28	26	21
3	77	67	60	54	69	61	54	49	48	44	40	36	33	31	26	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	21	19	15
5	64	53	45	39	57	47	41	35	38	33	29	29	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	9
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	18	15	18	15	12	13	11	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6838	6838	6838
5°	6859	6683	6702
10°	6817	6573	6568
15°	6756	6446	6411
20°	6664	6307	6259
25°	6560	6151	6092
30°	6448	5995	5919
35°	6321	5835	5768
40°	6219	5684	5610
45°	6067	5543	5475
50°	5939	5383	5333
55°	5808	5231	5164
60°	5601	5036	5013
65°	5376	4829	4824
70°	5101	4592	4605
75°	4723	4331	4407
80°	4295	4081	4213
85°	3763	3857	4101



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.2	0.9
10°-20°	229.8	2.7
20°-30°	347.5	4.1
30°-40°	420.4	5.0
40°-50°	444.5	5.3
50°-60°	418.3	4.9
60°-70°	347.1	4.1
70°-80°	243.8	2.9
80°-90°	143.0	1.7
90°-100°	143.3	1.7
100°-110°	452.6	5.4
110°-120°	790.7	9.4
120°-130°	975.1	11.5
130°-140°	1028.6	12.2
140°-150°	954.6	11.3
150°-160°	768.2	9.1
160°-170°	495.5	5.9
170°-180°	170.8	2.0
0°-30°	657.5	7.8
0°-40°	1077.9	12.8
0°-60°	1940.7	23.0
0°-90°	2674.6	31.6
90°-120°	1386.7	16.4
90°-150°	4345.0	51.4
90°-180°	5779.0	68.4
0°-180°	8454.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	848	845	838	846	845	80
15°	813	814	811	819	818	229
25°	744	749	752	762	764	342
35°	651	662	672	684	688	407
45°	542	561	578	594	599	419
55°	425	445	473	492	498	378
65°	294	324	357	379	388	291
75°	163	198	238	264	273	174
85°	50	90	133	160	171	54
90°	19	72	124	158	169	14
95°	86	75	112	144	156	105
105°	413	441	482	514	477	433
115°	761	775	803	826	833	749
125°	1066	1072	1092	1113	1121	952
135°	1320	1319	1330	1348	1357	1017
145°	1520	1523	1524	1531	1537	950
155°	1666	1667	1663	1668	1665	768
165°	1758	1751	1751	1760	1750	496
175°	1798	1790	1791	1802	1787	171
180°	1798	1798	1798	1798	1798	



TEST NUMBER: P332801-940

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	850.1	849.5	849.0	848.6	848.0	847.1	845.7	844.4	843.0	841.7	842.8
5°	847.9	847.3	846.7	846.1	845.4	844.4	842.8	841.4	839.9	838.5	840.2
7.5°	840.7	840.3	840.0	839.6	839.2	838.4	837.2	836.0	834.7	833.6	835.4
10°	834.6	834.5	834.3	834.0	833.8	833.2	832.1	831.1	830.0	828.9	830.9
12.5°	826.3	826.3	826.3	826.2	826.2	825.8	825.1	824.3	823.6	822.9	824.7
15°	812.9	813.1	813.2	813.5	813.7	813.5	812.9	812.3	811.5	810.9	812.9
17.5°	794.4	795.0	795.7	796.4	797.0	797.2	797.1	797.0	796.8	796.7	798.7
20°	781.6	782.2	782.8	783.5	784.1	784.5	784.7	784.9	785.2	785.3	787.5
22.5°	767.1	767.9	768.7	769.5	770.3	771.0	771.3	771.7	772.0	772.5	774.5
25°	743.6	744.8	746.2	747.4	748.7	749.7	750.3	750.9	751.5	752.2	754.5
27.5°	717.5	719.3	721.1	723.0	724.9	726.3	727.3	728.2	729.2	730.1	732.3
30°	700.0	701.7	703.4	705.1	706.8	708.3	709.8	711.2	712.7	714.2	716.5
32.5°	681.0	683.1	685.1	687.1	689.1	690.9	692.6	694.2	695.9	697.5	700.2
35°	650.7	653.2	655.8	658.3	660.8	663.1	665.2	667.4	669.4	671.5	674.5
37.5°	620.1	623.0	626.0	628.8	631.8	634.5	637.1	639.7	642.4	645.0	648.0
40°	600.4	603.2	605.8	608.6	611.4	614.2	617.2	620.1	623.0	626.0	629.2
42.5°	577.7	580.7	583.8	586.8	590.0	593.2	596.6	600.1	603.6	607.0	610.6
45°	542.5	546.5	550.5	554.6	558.6	562.6	566.6	570.6	574.5	578.5	582.2
47.5°	509.0	513.1	517.2	521.4	525.5	529.9	534.5	539.1	543.8	548.4	552.1
50°	484.6	489.3	493.9	498.6	503.2	507.8	512.5	517.1	521.7	526.4	530.7
52.5°	460.4	465.0	469.7	474.3	478.9	483.9	489.2	494.5	499.9	505.2	509.3
55°	424.9	429.4	433.8	438.2	442.6	448.0	454.3	460.7	467.0	473.3	477.5
57.5°	385.3	390.7	396.3	401.7	407.2	413.0	419.4	425.6	431.9	438.2	443.2
60°	359.4	365.0	370.4	375.9	381.4	387.6	394.6	401.5	408.5	415.4	420.3
62.5°	334.4	340.5	346.4	352.4	358.4	364.9	371.8	378.8	385.8	392.7	397.5
65°	294.0	300.8	307.6	314.2	321.0	328.0	335.1	342.3	349.5	356.6	361.9
67.5°	255.1	262.3	269.5	276.6	283.8	291.2	298.9	306.6	314.2	321.9	327.3
70°	228.5	235.8	242.9	250.1	257.3	264.8	272.9	280.9	288.8	296.9	302.6
72.5°	202.8	210.1	217.5	224.8	232.1	240.0	248.6	257.1	265.6	274.1	279.6
75°	163.2	170.9	178.7	186.5	194.3	202.7	211.5	220.3	229.3	238.1	244.0
77.5°	126.2	134.4	142.7	151.0	159.2	168.0	177.3	186.5	195.8	205.1	211.1
80°	103.3	111.8	120.2	128.7	137.1	146.0	155.2	164.5	173.8	183.1	189.4
82.5°	80.6	89.3	98.2	106.9	115.7	124.8	134.0	143.3	152.6	161.8	168.3
85°	50.3	59.1	67.9	76.9	85.7	94.9	104.3	113.8	123.3	132.8	139.1
87.5°	28.9	38.2	47.4	56.6	65.9	75.3	85.1	94.8	104.5	114.2	120.7
90°	19.2	30.9	42.6	54.4	66.1	77.7	89.1	100.6	112.0	123.5	131.3
92.5°	31.4	39.1	46.9	54.7	62.4	72.1	83.5	95.0	106.4	117.9	125.6
95°	86.3	83.1	79.9	76.7	73.5	76.3	85.2	94.3	103.2	112.1	119.6
97.5°	168.3	180.6	192.9	205.2	217.6	211.3	186.5	161.8	137.0	112.2	117.9
100°	231.0	241.8	252.7	263.6	274.4	263.3	230.3	197.2	164.3	131.3	131.9
102.5°	301.9	310.8	319.5	328.2	337.0	342.7	345.4	348.0	350.7	353.4	304.1
105°	413.3	419.3	425.3	431.3	437.3	445.0	454.2	463.6	472.9	482.1	490.1
107.5°	518.3	522.6	527.0	531.4	535.7	542.6	552.0	561.4	570.8	580.2	586.7
110°	588.5	592.4	596.2	600.0	603.9	610.4	619.6	628.7	637.9	647.1	652.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	656.6	660.8	665.0	669.3	673.5	679.6	687.4	695.4	703.2	711.1	715.6
115°	761.4	764.2	767.0	769.8	772.6	777.2	783.6	790.1	796.6	803.0	808.2
117.5°	856.8	859.1	861.4	863.7	866.0	870.7	877.6	884.6	891.5	898.4	902.7
120°	920.5	922.3	924.2	926.0	927.8	931.7	937.5	943.3	949.0	954.9	959.7
122.5°	980.8	981.6	982.4	983.3	984.1	987.7	993.8	1000.1	1006.2	1012.4	1017.0
125°	1066.1	1067.1	1068.1	1069.1	1070.1	1072.9	1077.5	1082.3	1086.9	1091.6	1096.4
127.5°	1147.7	1147.8	1147.9	1148.0	1148.1	1150.8	1156.2	1161.6	1167.1	1172.5	1176.1
130°	1199.6	1199.7	1199.8	1199.9	1200.0	1202.2	1206.5	1210.8	1215.0	1219.2	1223.3
132.5°	1248.0	1248.4	1248.8	1249.0	1249.4	1251.4	1255.3	1259.1	1262.9	1266.8	1270.7
135°	1319.7	1319.5	1319.1	1318.8	1318.6	1319.7	1322.4	1325.1	1327.8	1330.4	1334.4
137.5°	1384.0	1383.9	1383.8	1383.8	1383.7	1384.6	1386.6	1388.7	1390.7	1392.8	1396.5
140°	1425.9	1426.4	1426.7	1427.1	1427.5	1428.1	1429.0	1429.8	1430.6	1431.4	1435.0
142.5°	1462.9	1463.9	1464.9	1466.0	1467.0	1467.7	1467.8	1468.1	1468.3	1468.6	1471.6
145°	1520.5	1521.2	1521.9	1522.6	1523.2	1523.6	1523.6	1523.6	1523.6	1523.6	1525.2
147.5°	1566.5	1568.0	1569.4	1570.8	1572.4	1572.9	1572.6	1572.4	1572.0	1571.7	1572.2
150°	1599.8	1600.8	1601.8	1602.8	1603.7	1604.1	1603.8	1603.6	1603.2	1602.9	1602.9
152.5°	1627.0	1628.0	1628.9	1629.8	1630.7	1630.9	1630.3	1629.8	1629.2	1628.7	1629.2
155°	1666.2	1666.4	1666.7	1667.1	1667.3	1667.1	1666.2	1665.3	1664.4	1663.4	1664.6
157.5°	1699.2	1699.1	1698.9	1698.7	1698.5	1697.9	1696.8	1695.9	1694.9	1693.8	1695.4
160°	1718.6	1717.7	1716.8	1715.9	1715.0	1714.4	1714.0	1713.8	1713.5	1713.2	1715.0
162.5°	1735.8	1734.6	1733.5	1732.4	1731.3	1730.5	1730.2	1729.9	1729.7	1729.3	1731.1
165°	1757.6	1756.0	1754.6	1753.1	1751.6	1750.9	1750.9	1750.9	1750.9	1750.9	1753.2
167.5°	1774.8	1773.3	1771.7	1770.1	1768.5	1767.7	1767.5	1767.4	1767.2	1767.0	1769.6
170°	1784.5	1782.7	1780.8	1779.1	1777.3	1776.6	1776.8	1777.2	1777.4	1777.7	1780.1
172.5°	1790.9	1789.1	1787.3	1785.6	1783.8	1783.0	1783.3	1783.6	1783.9	1784.2	1786.5
175°	1797.9	1796.1	1794.3	1792.5	1790.7	1790.0	1790.3	1790.6	1790.9	1791.2	1793.9
177.5°	1801.2	1799.5	1797.8	1796.1	1794.5	1793.9	1794.3	1794.8	1795.3	1795.7	1797.7
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	844.0	845.3	846.4	846.9	846.8	846.6	846.4	846.2
5°	841.9	843.6	845.2	846.0	845.7	845.5	845.3	845.1
7.5°	837.3	839.2	841.2	842.0	841.8	841.5	841.3	841.2
10°	832.8	834.6	836.6	837.4	837.2	837.0	836.8	836.6
12.5°	826.3	828.1	829.8	830.6	830.6	830.5	830.5	830.5
15°	814.8	816.6	818.5	819.4	819.2	818.9	818.8	818.5
17.5°	800.6	802.5	804.5	805.4	805.2	805.0	804.9	804.7
20°	789.5	791.7	793.8	794.9	794.9	794.9	794.9	794.9
22.5°	776.7	778.7	780.9	782.1	782.5	782.7	783.1	783.5
25°	756.8	759.1	761.4	762.7	762.9	763.1	763.3	763.6
27.5°	734.4	736.6	738.8	739.9	740.2	740.5	740.7	740.9
30°	718.8	721.1	723.4	724.9	725.3	725.7	726.1	726.6
32.5°	702.8	705.5	708.1	709.7	710.1	710.5	711.0	711.4
35°	677.4	680.4	683.3	685.1	685.7	686.3	687.1	687.7
37.5°	650.9	654.0	656.9	658.8	659.4	660.1	660.8	661.5
40°	632.3	635.5	638.6	640.6	641.5	642.3	643.2	644.0
42.5°	614.0	617.5	621.0	623.1	623.8	624.5	625.2	625.8
45°	585.8	589.3	592.9	595.2	596.3	597.4	598.4	599.4
47.5°	555.8	559.5	563.3	565.7	567.0	568.3	569.5	570.8
50°	534.8	539.0	543.2	546.0	547.2	548.6	549.8	551.1
52.5°	513.6	517.8	522.0	524.8	526.0	527.3	528.5	529.9
55°	481.7	486.0	490.2	492.9	494.2	495.4	496.7	497.9
57.5°	448.3	453.3	458.3	461.4	462.5	463.7	464.9	466.1
60°	425.2	430.0	434.8	438.1	439.8	441.5	443.2	444.9
62.5°	402.3	407.2	412.1	415.4	417.1	418.7	420.4	422.0
65°	367.2	372.5	377.7	381.2	382.9	384.6	386.2	387.9
67.5°	332.6	338.0	343.3	346.8	348.5	350.1	351.8	353.4
70°	308.3	314.0	319.7	323.2	324.7	326.2	327.6	329.1
72.5°	285.2	290.7	296.2	299.8	301.4	303.1	304.7	306.4
75°	249.9	255.7	261.7	265.6	267.5	269.4	271.3	273.1
77.5°	217.0	223.0	229.0	233.0	235.1	237.0	239.1	241.1
80°	195.7	202.1	208.4	212.3	214.0	215.7	217.4	219.1
82.5°	174.8	181.3	187.8	192.0	193.8	195.6	197.5	199.4
85°	145.4	151.8	158.1	162.3	164.4	166.5	168.6	170.8
87.5°	127.2	133.7	140.1	144.4	146.3	148.3	150.3	152.2
90°	139.3	147.2	155.1	160.2	162.5	164.8	167.0	169.3
92.5°	133.3	141.1	148.8	153.6	155.3	157.2	159.0	160.8
95°	127.1	134.6	142.0	146.9	149.1	151.2	153.5	155.7
97.5°	123.5	129.2	134.9	138.8	141.0	143.0	145.2	147.3
100°	132.5	133.0	133.7	134.9	136.7	138.4	140.2	142.0
102.5°	254.9	205.5	156.2	132.4	134.1	135.9	137.6	139.3
105°	498.1	506.0	514.0	513.4	504.4	495.3	486.2	477.2
107.5°	593.2	599.7	606.2	610.7	613.4	616.1	618.8	621.4
110°	658.0	663.4	668.9	672.9	675.5	678.1	680.6	683.2





TEST NUMBER: P332801-940

CATALOG NUMBER: S124DIW-S795D1560U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	720.2	724.8	729.3	733.0	735.8	738.6	741.5	744.3
115°	813.5	818.7	823.9	827.3	828.8	830.3	831.7	833.2
117.5°	907.0	911.2	915.5	918.4	920.0	921.6	923.1	924.7
120°	964.6	969.3	974.1	977.1	978.2	979.3	980.3	981.4
122.5°	1021.5	1026.2	1030.7	1033.5	1034.4	1035.3	1036.3	1037.1
125°	1101.4	1106.3	1111.2	1114.5	1116.0	1117.6	1119.1	1120.7
127.5°	1179.7	1183.3	1187.0	1189.4	1190.5	1191.8	1192.9	1194.2
130°	1227.4	1231.5	1235.6	1238.3	1239.6	1240.8	1242.2	1243.4
132.5°	1274.6	1278.5	1282.5	1285.0	1286.0	1287.0	1288.1	1289.1
135°	1338.4	1342.3	1346.3	1349.2	1351.0	1352.9	1354.8	1356.6
137.5°	1400.3	1403.9	1407.7	1410.0	1410.9	1411.8	1412.6	1413.5
140°	1438.6	1442.3	1445.9	1448.4	1449.7	1451.1	1452.4	1453.8
142.5°	1474.7	1477.7	1480.8	1482.8	1483.7	1484.7	1485.7	1486.6
145°	1526.7	1528.3	1529.8	1531.3	1532.8	1534.2	1535.7	1537.1
147.5°	1572.5	1573.0	1573.3	1574.0	1575.0	1576.0	1577.0	1578.0
150°	1602.9	1602.9	1602.9	1603.1	1603.4	1603.7	1604.0	1604.3
152.5°	1629.7	1630.1	1630.7	1630.8	1630.6	1630.4	1630.2	1630.0
155°	1665.8	1667.1	1668.2	1668.4	1667.5	1666.6	1665.7	1664.8
157.5°	1696.9	1698.5	1700.0	1700.0	1698.5	1696.9	1695.4	1693.8
160°	1716.8	1718.6	1720.4	1720.4	1718.6	1716.8	1715.0	1713.2
162.5°	1733.0	1734.7	1736.5	1736.3	1734.4	1732.3	1730.3	1728.2
165°	1755.6	1758.0	1760.4	1760.2	1757.6	1754.9	1752.2	1749.5
167.5°	1772.3	1774.9	1777.5	1777.4	1774.3	1771.4	1768.4	1765.4
170°	1782.5	1784.9	1787.3	1787.0	1784.0	1781.0	1778.1	1775.0
172.5°	1789.0	1791.4	1793.8	1793.3	1790.1	1786.9	1783.7	1780.4
175°	1796.5	1799.3	1802.0	1801.5	1797.9	1794.3	1790.7	1787.2
177.5°	1799.6	1801.5	1803.4	1803.0	1800.1	1797.2	1794.3	1791.4
180°	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9	1797.9

(END OF REPORT)