

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: P331581-830

Luminaire Tested: **S122DIW-S865D1440U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331581-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S865D1440U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8726.0 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

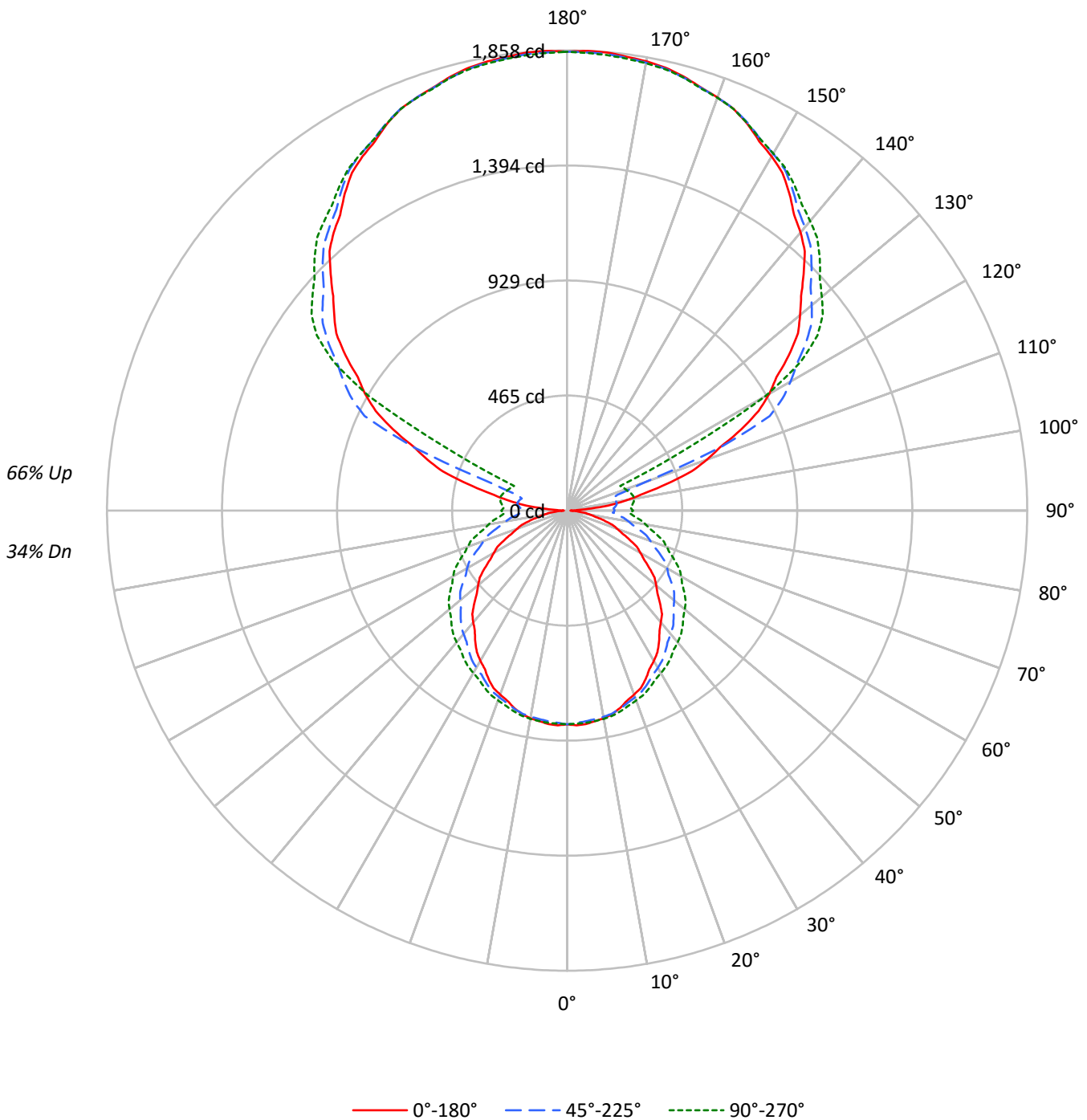
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331581-830

CATALOG NUMBER: S122DIW-S865D1440U830-4F0-1E-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	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	93	88	84	80	84	80	76	73	63	61	59	48	47	45	35	34	33	26
2	84	77	70	65	76	69	64	59	55	51	48	42	39	37	30	28	27	21
3	77	67	59	53	69	60	54	49	48	43	40	37	33	31	26	24	22	17
4	70	59	51	45	63	53	46	41	42	37	33	32	29	26	23	21	19	15
5	64	52	44	38	57	47	40	35	38	33	28	29	25	22	21	18	16	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	21	24	20	17	17	14	12	10
8	50	38	30	25	45	34	28	23	28	23	19	21	18	15	16	13	11	9
9	47	34	27	22	42	31	25	20	25	20	17	20	16	13	14	12	10	8
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

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

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.8	0.9
10°-20°	234.5	2.7
20°-30°	355.3	4.1
30°-40°	432.8	5.0
40°-50°	465.6	5.3
50°-60°	452.2	5.2
60°-70°	394.8	4.5
70°-80°	304.0	3.5
80°-90°	208.6	2.4
90°-100°	202.3	2.3
100°-110°	329.2	3.8
110°-120°	673.6	7.7
120°-130°	1037.8	11.9
130°-140°	1079.3	12.4
140°-150°	991.2	11.4
150°-160°	794.7	9.1
160°-170°	512.1	5.9
170°-180°	176.3	2.0
0°-30°	671.6	7.7
0°-40°	1104.4	12.7
0°-60°	2022.2	23.2
0°-90°	2929.5	33.6
90°-120°	1205.1	13.8
90°-150°	4313.4	49.4
90°-180°	5797.0	66.4
0°-180°	8726.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	14	101	192	246	266	12
95°	97	116	196	248	264	115
105°	414	469	189	246	267	443
115°	776	815	902	347	236	763
125°	1092	1112	1175	1217	1234	974
135°	1350	1371	1396	1434	1443	1043
145°	1564	1564	1586	1602	1602	978
155°	1723	1712	1726	1734	1724	793
165°	1815	1808	1811	1819	1811	513
175°	1857	1848	1850	1858	1846	177
180°	1853	1853	1853	1853	1853	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.8	42.0	59.2	76.4	93.7	111.4	129.7	148.0	166.2	184.5	196.1
90°	13.9	33.3	52.7	72.0	91.4	111.2	131.4	151.6	171.7	191.9	204.5
92.5°	38.5	53.3	68.1	82.8	97.5	114.0	132.2	150.5	168.9	187.2	198.9
95°	97.2	100.4	103.6	106.8	110.1	121.0	139.9	158.6	177.4	196.1	208.2
97.5°	181.7	165.6	149.5	133.5	117.3	119.7	140.5	161.4	182.2	203.0	214.5
100°	246.0	215.5	184.9	154.5	123.9	118.9	139.6	160.2	180.9	201.5	214.1
102.5°	315.8	316.6	317.4	318.1	318.9	305.6	278.3	251.1	223.9	196.6	209.8
105°	413.8	430.7	447.8	464.8	481.7	456.9	389.9	323.1	256.2	189.4	202.4
107.5°	527.0	540.5	554.2	567.9	581.5	546.6	462.9	379.2	295.5	211.8	217.8
110°	598.9	610.7	622.5	634.3	646.1	615.8	543.3	470.8	398.3	325.9	305.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	667.5	677.7	687.9	698.1	708.3	709.3	701.0	692.7	684.3	676.0	576.3
115°	775.8	783.9	792.0	800.1	808.3	822.4	842.3	862.2	882.2	902.1	772.6
117.5°	871.4	879.0	886.6	894.3	902.0	914.2	930.9	947.5	964.2	980.9	955.7
120°	942.1	947.7	953.3	958.8	964.4	975.4	991.9	1008.4	1024.9	1041.4	1052.7
122.5°	1002.2	1007.3	1012.5	1017.7	1022.8	1033.5	1049.8	1066.1	1082.3	1098.6	1108.3
125°	1092.3	1096.2	1100.1	1104.0	1107.9	1117.0	1131.6	1146.1	1160.7	1175.3	1184.9
127.5°	1175.2	1179.2	1183.2	1187.2	1191.3	1198.9	1210.3	1221.7	1233.1	1244.5	1254.4
130°	1227.8	1232.2	1236.7	1241.2	1245.7	1252.5	1261.6	1270.7	1279.9	1288.9	1298.9
132.5°	1281.4	1285.2	1288.9	1292.7	1296.5	1302.2	1310.0	1317.8	1325.6	1333.3	1342.6
135°	1349.8	1354.6	1359.3	1364.1	1368.9	1374.0	1379.4	1384.9	1390.3	1395.8	1404.7
137.5°	1420.3	1423.6	1426.9	1430.2	1433.4	1437.2	1441.5	1445.8	1450.0	1454.2	1462.3
140°	1466.4	1468.6	1470.6	1472.7	1474.9	1477.8	1481.7	1485.5	1489.3	1493.2	1500.2
142.5°	1505.1	1506.9	1508.8	1510.6	1512.5	1515.4	1519.3	1523.1	1527.0	1530.9	1536.8
145°	1564.4	1564.1	1563.8	1563.5	1563.2	1565.6	1570.7	1575.7	1580.7	1585.8	1589.6
147.5°	1617.2	1616.1	1615.0	1613.8	1612.7	1614.6	1619.6	1624.7	1629.7	1634.7	1636.4
150°	1651.5	1649.4	1647.4	1645.3	1643.1	1644.5	1649.3	1654.1	1658.8	1663.6	1665.4
152.5°	1680.5	1678.2	1675.8	1673.5	1671.2	1672.3	1676.8	1681.3	1685.8	1690.4	1692.1
155°	1722.6	1719.9	1717.2	1714.5	1711.8	1712.3	1715.9	1719.5	1723.1	1726.5	1728.3
157.5°	1755.6	1753.3	1751.1	1748.8	1746.5	1746.6	1749.1	1751.6	1754.1	1756.6	1758.7
160°	1774.8	1773.0	1771.3	1769.5	1767.7	1767.7	1769.5	1771.3	1773.0	1774.8	1776.6
162.5°	1792.0	1790.3	1788.5	1786.7	1784.9	1784.7	1786.3	1787.8	1789.4	1790.9	1793.0
165°	1815.1	1813.3	1811.5	1809.7	1807.9	1807.5	1808.4	1809.2	1810.2	1811.0	1813.2
167.5°	1832.2	1830.4	1828.6	1826.8	1825.0	1824.6	1825.4	1826.3	1827.1	1828.0	1830.0
170°	1841.9	1840.1	1838.3	1836.5	1834.8	1834.1	1834.8	1835.3	1835.9	1836.5	1838.6
172.5°	1848.3	1846.5	1844.7	1843.0	1841.2	1840.6	1841.2	1841.7	1842.4	1843.0	1845.0
175°	1856.6	1854.5	1852.5	1850.4	1848.3	1847.6	1848.1	1848.7	1849.4	1849.9	1852.0
177.5°	1857.9	1856.3	1854.6	1852.9	1851.2	1850.6	1850.8	1851.1	1851.2	1851.5	1853.2
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	207.7	219.3	231.0	238.7	242.3	246.0	249.7	253.4
90°	217.2	229.7	242.3	250.6	254.5	258.4	262.4	266.4
92.5°	210.6	222.2	233.8	241.6	245.2	248.9	252.6	256.3
95°	220.2	232.2	244.3	251.8	254.9	258.0	261.0	264.0
97.5°	226.0	237.5	248.9	256.5	260.1	263.8	267.4	271.1
100°	226.8	239.5	252.1	260.3	264.0	267.6	271.3	274.9
102.5°	222.9	236.1	249.3	257.8	261.6	265.6	269.5	273.3
105°	215.4	228.4	241.4	250.0	254.2	258.4	262.7	266.9
107.5°	223.8	229.8	235.8	240.9	245.2	249.4	253.6	257.9
110°	284.1	263.3	242.3	234.0	238.3	242.5	246.8	251.0





TEST NUMBER: P331581-830

CATALOG NUMBER: S122DIW-S865D1440U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	476.5	376.6	276.9	229.0	233.0	237.0	241.0	245.1
115°	643.0	513.4	383.8	309.8	291.4	273.1	254.7	236.2
117.5°	930.7	905.5	880.3	834.0	766.3	698.7	631.0	563.4
120°	1064.1	1075.4	1086.8	1073.9	1036.8	999.6	962.4	925.3
122.5°	1118.0	1127.8	1137.5	1139.7	1134.5	1129.4	1124.2	1119.0
125°	1194.5	1204.0	1213.6	1220.1	1223.5	1226.9	1230.3	1233.7
127.5°	1264.4	1274.3	1284.3	1290.5	1293.2	1295.8	1298.4	1301.1
130°	1308.8	1318.8	1328.7	1334.6	1336.6	1338.5	1340.5	1342.4
132.5°	1351.9	1361.1	1370.4	1375.9	1377.8	1379.8	1381.7	1383.7
135°	1413.4	1422.3	1431.1	1436.3	1437.9	1439.5	1441.2	1442.8
137.5°	1470.4	1478.4	1486.4	1490.8	1491.8	1492.6	1493.5	1494.4
140°	1507.4	1514.6	1521.6	1525.3	1525.5	1525.7	1525.9	1526.1
142.5°	1542.8	1548.9	1554.8	1557.8	1557.7	1557.7	1557.6	1557.6
145°	1593.4	1597.1	1600.8	1602.7	1602.6	1602.5	1602.4	1602.2
147.5°	1638.1	1639.9	1641.7	1642.3	1641.7	1641.2	1640.6	1639.9
150°	1667.2	1669.0	1670.8	1670.8	1669.4	1667.9	1666.4	1664.9
152.5°	1693.9	1695.7	1697.5	1697.4	1695.4	1693.6	1691.6	1689.6
155°	1730.1	1731.9	1733.7	1733.4	1731.1	1728.7	1726.3	1723.9
157.5°	1760.7	1762.6	1764.7	1764.5	1762.3	1759.9	1757.6	1755.3
160°	1778.4	1780.2	1782.0	1781.9	1779.8	1777.6	1775.6	1773.5
162.5°	1795.0	1797.1	1799.0	1798.7	1796.2	1793.7	1791.1	1788.6
165°	1815.2	1817.3	1819.4	1819.4	1817.3	1815.2	1813.2	1811.0
167.5°	1832.1	1834.2	1836.3	1836.0	1833.3	1830.6	1828.0	1825.2
170°	1840.7	1842.8	1844.8	1844.6	1841.9	1839.2	1836.5	1833.8
172.5°	1847.1	1849.2	1851.2	1851.0	1848.3	1845.6	1843.0	1840.2
175°	1854.1	1856.1	1858.2	1857.8	1854.8	1851.8	1848.9	1845.9
177.5°	1854.8	1856.5	1858.2	1857.9	1855.8	1853.7	1851.5	1849.4
180°	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6	1852.6

(END OF REPORT)