

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

Luminaire Tested: **S122DIW-S865D1440U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331581
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-S865D1440U835-4F0-1E-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: 9258.0 lumens
Efficiency: N/A
Efficacy: 120.9 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

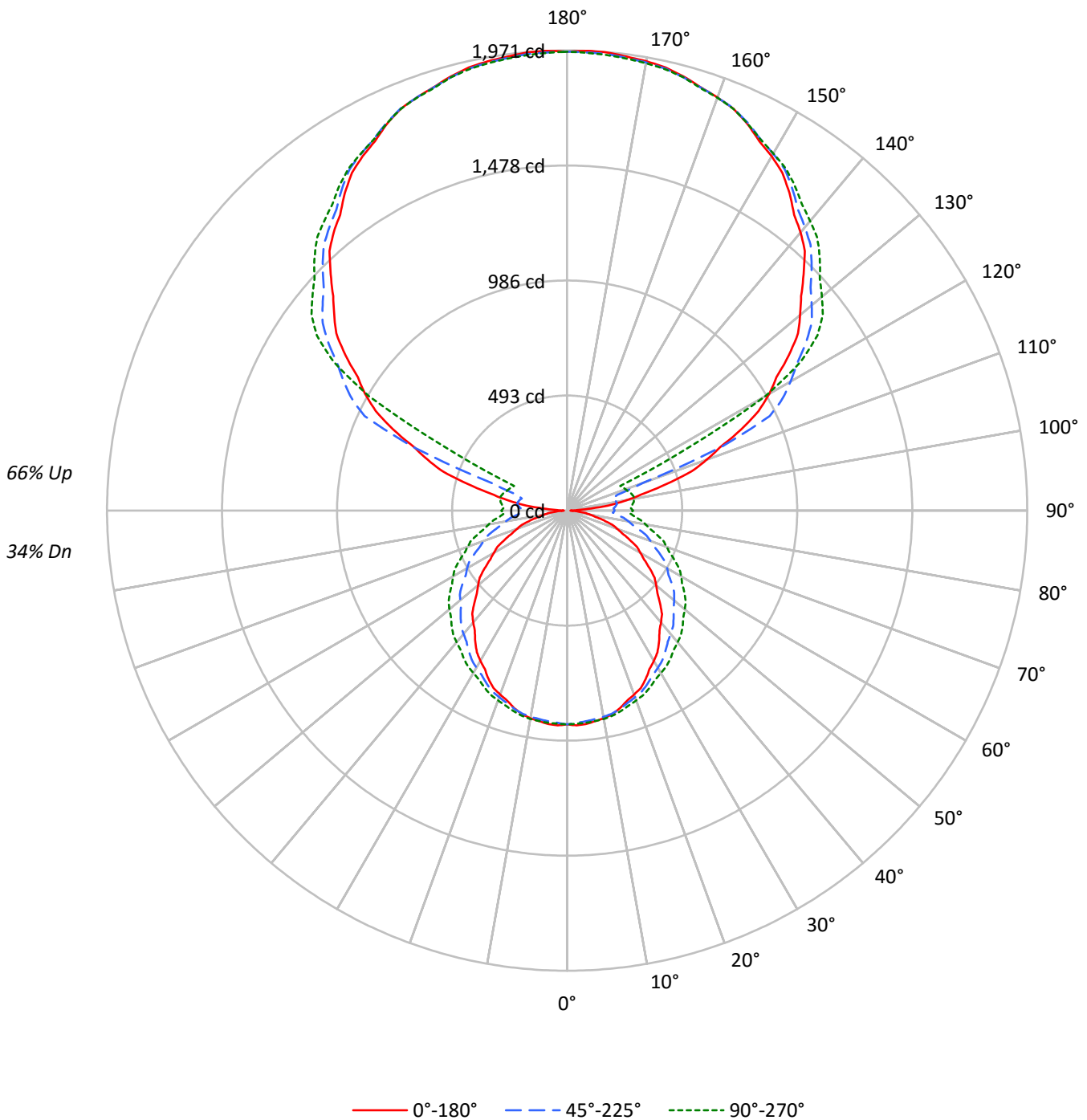
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	0.9
10°-20°	248.8	2.7
20°-30°	377.0	4.1
30°-40°	459.2	5.0
40°-50°	494.0	5.3
50°-60°	479.7	5.2
60°-70°	418.9	4.5
70°-80°	322.5	3.5
80°-90°	221.3	2.4
90°-100°	214.7	2.3
100°-110°	349.3	3.8
110°-120°	714.6	7.7
120°-130°	1101.1	11.9
130°-140°	1145.1	12.4
140°-150°	1051.6	11.4
150°-160°	843.1	9.1
160°-170°	543.3	5.9
170°-180°	187.0	2.0
0°-30°	712.5	7.7
0°-40°	1171.7	12.7
0°-60°	2145.5	23.2
0°-90°	3108.1	33.6
90°-120°	1278.6	13.8
90°-150°	4576.4	49.4
90°-180°	6150.0	66.4
0°-180°	9258.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	15	108	204	262	283	13
95°	103	123	208	263	280	121
105°	439	498	201	261	283	470
115°	823	865	957	368	251	810
125°	1159	1180	1247	1291	1309	1033
135°	1432	1455	1481	1521	1531	1106
145°	1660	1660	1682	1699	1700	1038
155°	1828	1816	1832	1839	1829	842
165°	1926	1918	1921	1930	1921	544
175°	1970	1961	1963	1971	1958	187
180°	1966	1966	1966	1966	1966	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.3	44.6	62.8	81.1	99.4	118.2	137.6	157.0	176.3	195.7	208.1
90°	14.7	35.3	55.9	76.4	97.0	118.0	139.4	160.8	182.2	203.6	217.0
92.5°	40.9	56.5	72.2	87.8	103.4	120.9	140.3	159.7	179.2	198.6	211.0
95°	103.1	106.5	109.9	113.3	116.8	128.4	148.4	168.3	188.2	208.1	220.9
97.5°	192.8	175.7	158.6	141.6	124.5	127.0	149.1	171.2	193.3	215.4	227.6
100°	261.0	228.6	196.2	163.9	131.5	126.2	148.1	170.0	191.9	213.8	227.2
102.5°	335.1	335.9	336.7	337.5	338.3	324.2	295.3	266.4	237.5	208.6	222.6
105°	439.0	457.0	475.1	493.1	511.1	484.7	413.7	342.8	271.8	200.9	214.7
107.5°	559.1	573.5	588.0	602.5	617.0	579.9	491.1	402.3	313.5	224.7	231.1
110°	635.4	647.9	660.4	673.0	685.5	653.3	576.4	499.5	422.6	345.8	323.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	708.2	719.0	729.8	740.7	751.5	752.5	743.7	734.9	726.0	717.2	611.4
115°	823.1	831.7	840.3	848.9	857.6	872.5	893.6	914.8	936.0	957.1	819.7
117.5°	924.5	932.6	940.7	948.8	957.0	969.9	987.6	1005.3	1023.0	1040.7	1014.0
120°	999.5	1005.5	1011.4	1017.3	1023.2	1034.9	1052.4	1069.9	1087.4	1104.9	1116.9
122.5°	1063.3	1068.7	1074.2	1079.7	1085.1	1096.5	1113.8	1131.1	1148.3	1165.6	1175.9
125°	1158.9	1163.0	1167.2	1171.3	1175.4	1185.1	1200.6	1216.0	1231.5	1246.9	1257.1
127.5°	1246.8	1251.1	1255.3	1259.6	1263.9	1272.0	1284.1	1296.2	1308.3	1320.4	1330.9
130°	1302.6	1307.3	1312.1	1316.9	1321.6	1328.8	1338.5	1348.2	1357.9	1367.5	1378.1
132.5°	1359.5	1363.5	1367.5	1371.5	1375.5	1381.6	1389.9	1398.1	1406.4	1414.6	1424.4
135°	1432.1	1437.2	1442.2	1447.3	1452.3	1457.8	1463.5	1469.3	1475.1	1480.9	1490.3
137.5°	1506.9	1510.4	1513.9	1517.4	1520.8	1524.8	1529.4	1533.9	1538.4	1542.9	1551.4
140°	1555.8	1558.1	1560.3	1562.5	1564.8	1567.9	1572.0	1576.1	1580.1	1584.2	1591.7
142.5°	1596.8	1598.8	1600.8	1602.7	1604.7	1607.8	1611.9	1616.0	1620.1	1624.2	1630.5
145°	1659.8	1659.4	1659.1	1658.8	1658.5	1661.0	1666.4	1671.8	1677.1	1682.5	1686.5
147.5°	1715.8	1714.6	1713.4	1712.2	1711.0	1713.0	1718.3	1723.7	1729.0	1734.3	1736.2
150°	1752.2	1750.0	1747.8	1745.6	1743.3	1744.8	1749.8	1754.9	1759.9	1765.0	1766.9
152.5°	1782.9	1780.5	1778.0	1775.5	1773.1	1774.2	1779.0	1783.8	1788.6	1793.4	1795.3
155°	1827.6	1824.7	1821.9	1819.0	1816.2	1816.7	1820.5	1824.3	1828.1	1831.8	1833.7
157.5°	1862.6	1860.2	1857.8	1855.4	1853.0	1853.1	1855.7	1858.4	1861.0	1863.7	1865.9
160°	1883.0	1881.1	1879.3	1877.4	1875.5	1875.5	1877.4	1879.3	1881.1	1883.0	1884.9
162.5°	1901.2	1899.4	1897.5	1895.6	1893.7	1893.5	1895.2	1896.8	1898.5	1900.1	1902.3
165°	1925.7	1923.8	1921.9	1920.0	1918.1	1917.7	1918.6	1919.5	1920.5	1921.4	1923.7
167.5°	1943.9	1942.0	1940.1	1938.2	1936.3	1935.8	1936.7	1937.6	1938.5	1939.4	1941.6
170°	1954.2	1952.3	1950.4	1948.5	1946.6	1945.9	1946.6	1947.2	1947.8	1948.5	1950.7
172.5°	1961.0	1959.1	1957.2	1955.3	1953.4	1952.8	1953.4	1954.0	1954.7	1955.3	1957.5
175°	1969.8	1967.6	1965.4	1963.2	1961.0	1960.2	1960.8	1961.4	1962.1	1962.7	1964.9
177.5°	1971.2	1969.5	1967.7	1965.9	1964.1	1963.4	1963.6	1963.9	1964.1	1964.4	1966.2
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	220.4	232.7	245.1	253.2	257.1	261.0	264.9	268.8
90°	230.4	243.7	257.1	265.9	270.0	274.2	278.4	282.6
92.5°	223.4	235.7	248.1	256.3	260.2	264.1	268.0	271.9
95°	233.6	246.4	259.2	267.2	270.4	273.7	276.9	280.1
97.5°	239.8	252.0	264.1	272.1	276.0	279.9	283.7	287.6
100°	240.6	254.1	267.5	276.2	280.1	283.9	287.8	291.7
102.5°	236.5	250.5	264.5	273.5	277.6	281.8	285.9	290.0
105°	228.5	242.3	256.1	265.2	269.7	274.2	278.7	283.2
107.5°	237.4	243.8	250.2	255.6	260.1	264.6	269.1	273.6
110°	301.4	279.3	257.1	248.3	252.8	257.3	261.8	266.3



TEST NUMBER: P331581

CATALOG NUMBER: S122DIW-S865D1440U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	505.5	399.6	293.8	243.0	247.2	251.5	255.7	260.0
115°	682.2	544.7	407.2	328.7	309.2	289.7	270.2	250.6
117.5°	987.4	960.7	934.0	884.8	813.0	741.3	669.5	597.7
120°	1129.0	1141.0	1153.1	1139.4	1100.0	1060.5	1021.1	981.7
122.5°	1186.2	1196.5	1206.8	1209.2	1203.7	1198.2	1192.7	1187.2
125°	1267.3	1277.4	1287.6	1294.5	1298.1	1301.7	1305.3	1308.9
127.5°	1341.5	1352.0	1362.6	1369.2	1372.0	1374.8	1377.6	1380.4
130°	1388.6	1399.2	1409.7	1416.0	1418.1	1420.1	1422.2	1424.2
132.5°	1434.3	1444.1	1453.9	1459.8	1461.8	1463.9	1465.9	1468.0
135°	1499.6	1509.0	1518.3	1523.9	1525.6	1527.3	1529.1	1530.8
137.5°	1560.0	1568.5	1577.0	1581.7	1582.7	1583.6	1584.5	1585.5
140°	1599.3	1606.9	1614.4	1618.3	1618.5	1618.7	1618.9	1619.1
142.5°	1636.9	1643.3	1649.6	1652.8	1652.7	1652.7	1652.6	1652.6
145°	1690.5	1694.5	1698.4	1700.4	1700.3	1700.2	1700.1	1699.9
147.5°	1738.0	1739.9	1741.8	1742.4	1741.8	1741.2	1740.6	1739.9
150°	1768.8	1770.7	1772.6	1772.7	1771.2	1769.6	1768.0	1766.4
152.5°	1797.2	1799.1	1801.0	1800.9	1798.8	1796.8	1794.7	1792.6
155°	1835.6	1837.5	1839.4	1839.1	1836.6	1834.1	1831.5	1829.0
157.5°	1868.0	1870.1	1872.3	1872.1	1869.7	1867.2	1864.7	1862.3
160°	1886.8	1888.7	1890.6	1890.5	1888.3	1886.0	1883.8	1881.6
162.5°	1904.4	1906.6	1908.7	1908.4	1905.7	1903.0	1900.3	1897.6
165°	1925.9	1928.1	1930.3	1930.3	1928.1	1925.9	1923.7	1921.4
167.5°	1943.8	1946.0	1948.2	1947.9	1945.1	1942.2	1939.4	1936.5
170°	1952.9	1955.1	1957.3	1957.0	1954.2	1951.3	1948.5	1945.6
172.5°	1959.7	1961.9	1964.1	1963.8	1961.0	1958.1	1955.3	1952.4
175°	1967.1	1969.3	1971.5	1971.1	1967.9	1964.7	1961.6	1958.4
177.5°	1967.9	1969.7	1971.5	1971.2	1968.9	1966.7	1964.4	1962.1
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5

(END OF REPORT)