

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: P331582

Luminaire Tested: **S122DIW-S865D1440U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331582
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
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-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8495.4 lumens
Efficiency: N/A
Efficacy: 110.9 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

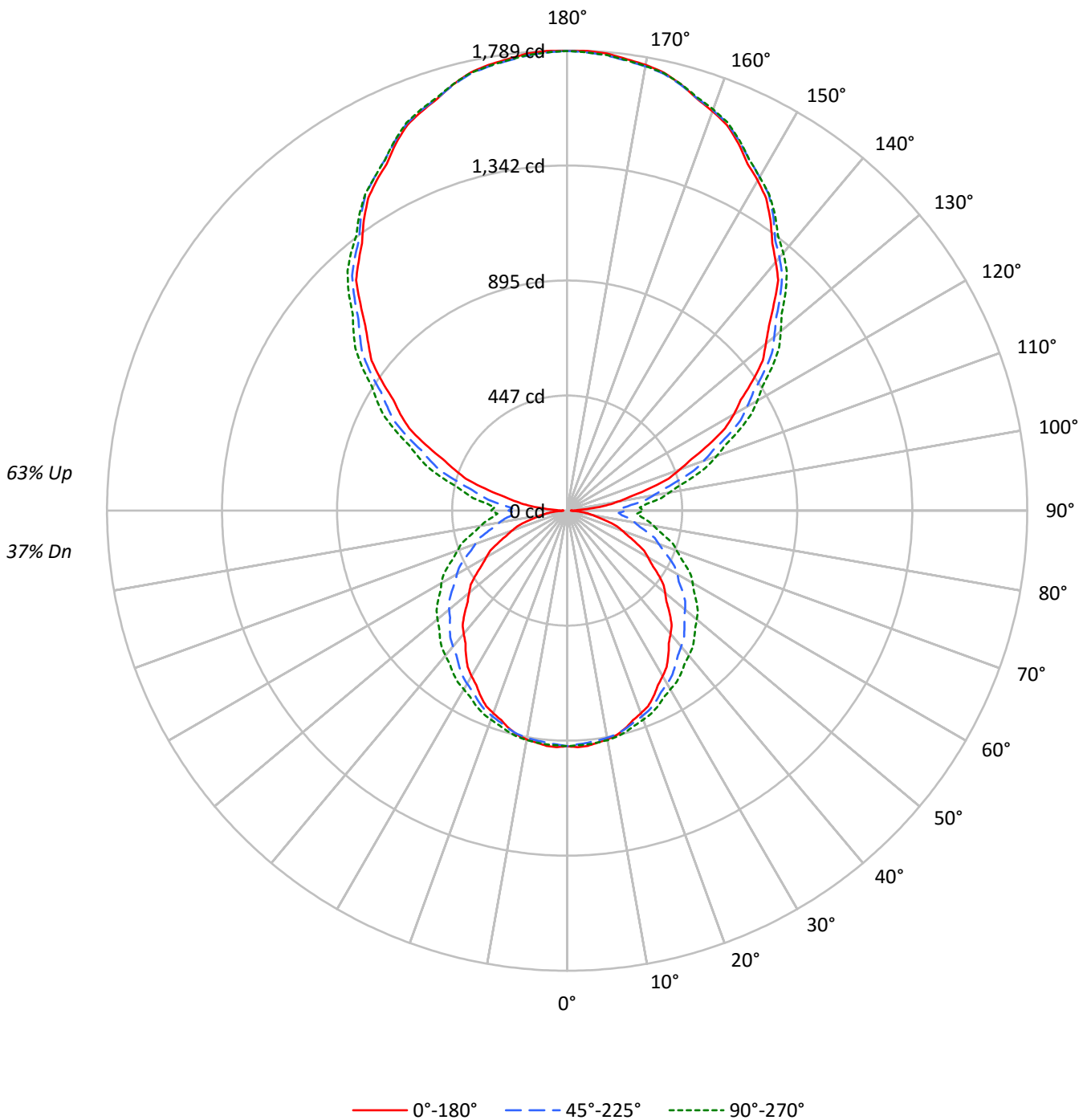
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37				37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35				29	
2	85	77	71	65	76	70	64	60	56	52	49	43	41	38	32	30	28				23	
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24				19	
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20				16	
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17				14	
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15				12	
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13				10	
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12				9	
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11				8	
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10				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	1.0
10°-20°	248.8	2.9
20°-30°	377.0	4.4
30°-40°	459.2	5.4
40°-50°	494.0	5.8
50°-60°	479.7	5.6
60°-70°	418.9	4.9
70°-80°	322.5	3.8
80°-90°	223.6	2.6
90°-100°	262.3	3.1
100°-110°	460.5	5.4
110°-120°	672.9	7.9
120°-130°	830.4	9.8
130°-140°	903.8	10.6
140°-150°	872.7	10.3
150°-160°	729.5	8.6
160°-170°	483.8	5.7
170°-180°	169.1	2.0
0°-30°	712.5	8.4
0°-40°	1171.7	13.8
0°-60°	2145.5	25.3
0°-90°	3110.4	36.6
90°-120°	1395.6	16.4
90°-150°	4002.6	47.1
90°-180°	5385.0	63.4
0°-180°	8495.4	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	111	228	276	295	13
95°	89	167	249	297	312	98
105°	331	375	446	493	510	350
115°	608	634	689	725	737	601
125°	880	895	932	962	973	787
135°	1136	1153	1169	1195	1202	878
145°	1378	1388	1398	1406	1408	861
155°	1575	1580	1584	1591	1588	725
165°	1714	1713	1713	1722	1716	483
175°	1783	1779	1776	1785	1777	169
180°	1786	1786	1786	1786	1786	



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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	44.7	63.1	81.4	99.8	119.2	139.5	159.9	180.2	200.6	212.5
90°	14.8	35.9	57.0	78.1	99.3	123.0	149.2	175.4	201.7	227.9	239.0
92.5°	39.0	57.9	76.8	95.7	114.5	133.9	153.8	173.7	193.6	213.5	225.2
95°	89.0	106.2	123.4	140.6	157.8	175.6	194.0	212.4	230.7	249.1	260.3
97.5°	152.5	167.8	183.1	198.3	213.6	230.4	248.6	266.9	285.1	303.4	314.3
100°	200.7	214.3	227.9	241.5	255.1	270.7	288.2	305.7	323.2	340.7	351.6
102.5°	250.3	262.5	274.6	286.7	298.8	313.5	330.8	348.1	365.4	382.8	393.7
105°	330.8	340.3	349.9	359.4	369.0	381.8	397.8	413.8	429.8	445.8	456.8
107.5°	413.1	421.4	429.7	438.1	446.4	457.9	472.6	487.2	501.9	516.6	526.8
110°	465.1	473.0	480.9	488.8	496.7	507.9	522.4	536.8	551.3	565.7	575.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	523.0	530.0	536.9	543.9	550.9	561.1	574.6	588.0	601.5	615.0	623.6
115°	608.3	613.6	618.8	624.1	629.3	638.3	650.9	663.5	676.1	688.7	697.2
117.5°	692.0	696.8	701.6	706.4	711.2	718.8	729.2	739.6	750.0	760.4	768.3
120°	748.7	752.6	756.4	760.3	764.2	770.6	779.8	788.9	798.0	807.1	815.4
122.5°	800.6	804.3	808.0	811.6	815.3	821.8	831.0	840.2	849.4	858.6	865.8
125°	880.1	883.1	886.1	889.1	892.1	897.8	906.3	914.7	923.1	931.6	938.5
127.5°	958.7	962.3	965.8	969.3	972.8	977.8	984.2	990.6	997.0	1003.4	1009.5
130°	1008.2	1012.3	1016.3	1020.4	1024.4	1029.2	1034.8	1040.3	1045.8	1051.3	1057.7
132.5°	1063.7	1066.9	1070.2	1073.4	1076.7	1080.8	1085.7	1090.6	1095.5	1100.4	1105.8
135°	1136.5	1140.2	1143.9	1147.6	1151.3	1154.9	1158.5	1162.1	1165.8	1169.4	1175.2
137.5°	1214.6	1217.6	1220.5	1223.5	1226.4	1229.0	1231.2	1233.3	1235.5	1237.7	1242.8
140°	1261.6	1264.4	1267.1	1269.8	1272.5	1275.0	1277.3	1279.6	1281.8	1284.1	1288.8
142.5°	1309.9	1312.6	1315.3	1318.0	1320.8	1322.8	1324.0	1325.3	1326.5	1327.8	1331.8
145°	1377.9	1380.3	1382.6	1384.9	1387.3	1389.5	1391.5	1393.5	1395.5	1397.5	1399.6
147.5°	1439.7	1442.5	1445.3	1448.2	1451.0	1453.1	1454.4	1455.7	1457.1	1458.4	1459.4
150°	1481.9	1483.9	1486.0	1488.0	1490.0	1491.6	1493.0	1494.3	1495.7	1497.0	1498.0
152.5°	1519.3	1521.3	1523.3	1525.3	1527.4	1529.2	1530.8	1532.4	1534.0	1535.6	1536.9
155°	1575.4	1576.4	1577.4	1578.4	1579.4	1580.4	1581.4	1582.4	1583.4	1584.4	1586.1
157.5°	1623.3	1624.0	1624.7	1625.4	1626.0	1626.7	1627.3	1627.9	1628.5	1629.1	1631.3
160°	1652.3	1653.0	1653.6	1654.3	1655.0	1655.5	1655.8	1656.1	1656.5	1656.8	1658.8
162.5°	1678.8	1679.0	1679.1	1679.2	1679.4	1679.6	1679.9	1680.3	1680.6	1680.9	1683.2
165°	1714.1	1713.8	1713.4	1713.1	1712.8	1712.6	1712.6	1712.6	1712.6	1712.6	1714.9
167.5°	1743.6	1742.6	1741.6	1740.6	1739.6	1739.1	1739.0	1739.0	1738.9	1738.8	1741.2
170°	1759.3	1758.3	1757.3	1756.3	1755.3	1754.6	1754.3	1754.0	1753.6	1753.3	1755.6
172.5°	1770.2	1769.2	1768.2	1767.2	1766.2	1765.5	1765.2	1764.8	1764.5	1764.1	1766.5
175°	1783.4	1782.4	1781.4	1780.4	1779.4	1778.6	1777.9	1777.2	1776.6	1775.9	1778.3
177.5°	1788.9	1788.1	1787.3	1786.5	1785.7	1785.0	1784.4	1783.9	1783.4	1782.8	1784.4
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5



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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°	224.4	236.3	248.2	256.0	259.9	263.7	267.6	271.4
90°	250.2	261.3	272.4	279.9	283.8	287.7	291.5	295.4
92.5°	236.9	248.6	260.3	268.0	271.6	275.2	278.8	282.4
95°	271.5	282.7	293.9	300.9	303.8	306.7	309.5	312.4
97.5°	325.2	336.1	347.0	354.2	357.6	361.0	364.4	367.9
100°	362.6	373.5	384.4	391.3	394.2	397.1	400.0	402.9
102.5°	404.6	415.6	426.5	433.5	436.4	439.3	442.2	445.1
105°	467.8	478.8	489.7	496.9	500.1	503.3	506.6	509.8
107.5°	537.0	547.1	557.3	563.3	565.0	566.7	568.4	570.1
110°	584.6	594.0	603.5	609.3	611.5	613.8	616.0	618.3



TEST NUMBER: P331582

CATALOG NUMBER: S122DIW-S865D1440U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	632.2	640.9	649.5	655.1	657.6	660.1	662.6	665.1
115°	705.7	714.2	722.7	728.1	730.3	732.6	734.8	737.0
117.5°	776.3	784.2	792.1	797.1	799.1	801.1	803.1	805.1
120°	823.6	831.9	840.1	845.4	847.6	849.9	852.1	854.3
122.5°	873.1	880.3	887.5	892.1	894.1	896.2	898.2	900.3
125°	945.5	952.4	959.4	964.0	966.3	968.7	971.0	973.3
127.5°	1015.6	1021.7	1027.8	1031.7	1033.2	1034.7	1036.2	1037.7
130°	1064.1	1070.5	1076.9	1080.7	1081.7	1082.7	1083.7	1084.7
132.5°	1111.2	1116.5	1121.9	1125.2	1126.5	1127.8	1129.1	1130.4
135°	1181.1	1187.0	1192.8	1196.4	1197.8	1199.1	1200.5	1201.8
137.5°	1248.0	1253.1	1258.3	1261.2	1261.9	1262.5	1263.2	1263.9
140°	1293.5	1298.2	1303.0	1305.5	1306.0	1306.4	1306.8	1307.2
142.5°	1335.9	1339.9	1344.0	1346.1	1346.3	1346.5	1346.7	1346.8
145°	1401.7	1403.8	1405.9	1407.0	1407.2	1407.3	1407.4	1407.6
147.5°	1460.4	1461.3	1462.3	1462.5	1461.9	1461.4	1460.8	1460.2
150°	1499.0	1500.0	1501.0	1501.0	1500.0	1499.0	1498.0	1497.0
152.5°	1538.1	1539.4	1540.7	1540.7	1539.4	1538.1	1536.9	1535.6
155°	1587.8	1589.5	1591.1	1591.5	1590.5	1589.5	1588.5	1587.5
157.5°	1633.6	1635.9	1638.2	1638.5	1636.9	1635.3	1633.7	1632.1
160°	1660.8	1662.8	1664.8	1665.2	1663.8	1662.5	1661.2	1659.8
162.5°	1685.5	1687.8	1690.0	1690.4	1688.8	1687.2	1685.6	1683.9
165°	1717.3	1719.6	1722.0	1722.3	1720.6	1719.0	1717.3	1715.6
167.5°	1743.5	1745.9	1748.2	1748.5	1746.8	1745.0	1743.3	1741.5
170°	1758.0	1760.3	1762.7	1762.8	1760.8	1758.8	1756.8	1754.8
172.5°	1768.8	1771.2	1773.5	1773.7	1771.7	1769.7	1767.7	1765.7
175°	1780.6	1782.9	1785.3	1785.5	1783.4	1781.4	1779.4	1777.4
177.5°	1786.1	1787.7	1789.3	1789.3	1787.7	1786.1	1784.4	1782.8
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5

(END OF REPORT)