

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: P331581-935

Luminaire Tested: **S122DIW-S865D1440U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331581-935
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-S865D1440U935-4F0-1E-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: 7971.1 lumens
Efficiency: N/A
Efficacy: 104.1 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

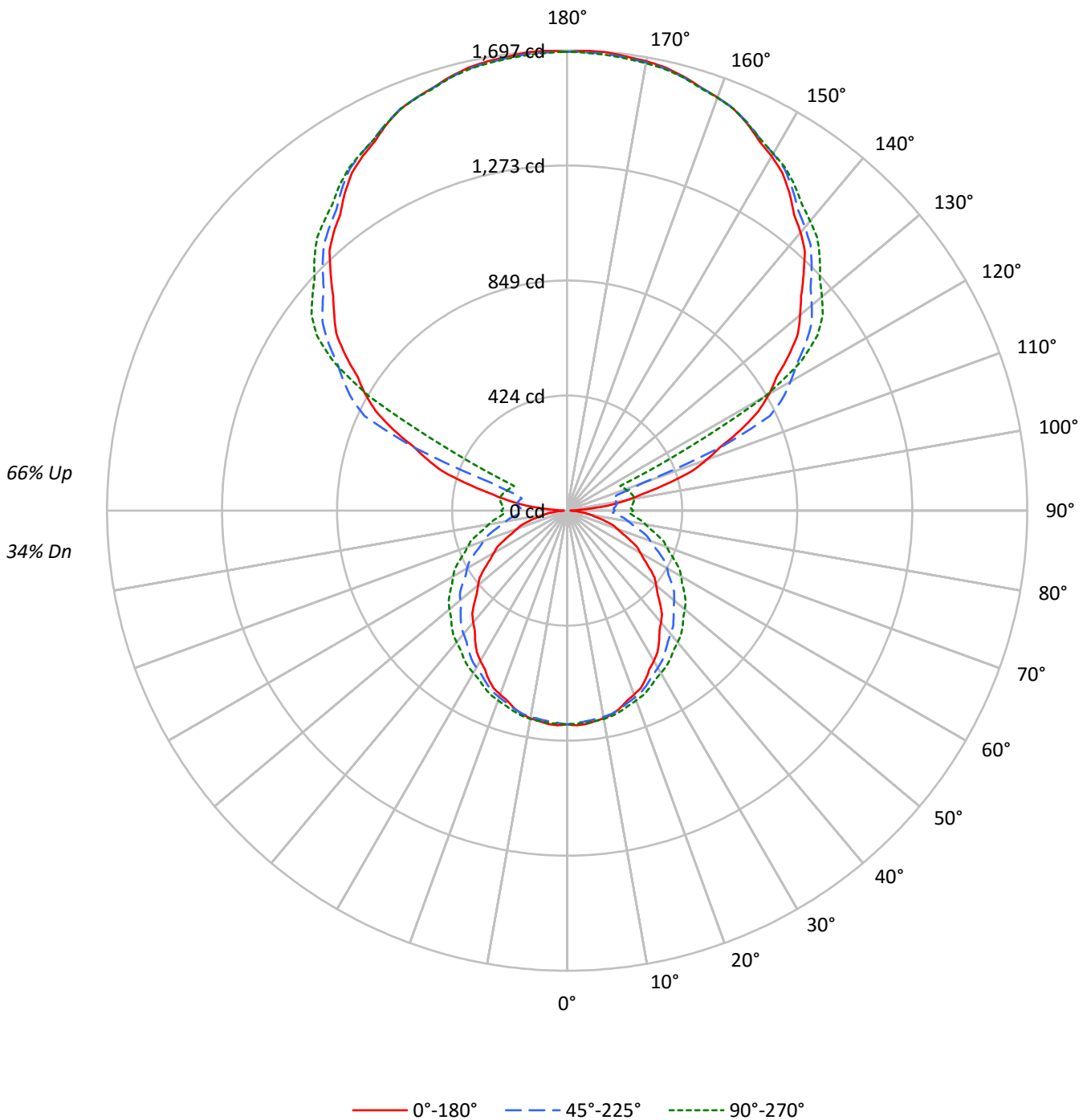
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331581-935

CATALOG NUMBER: S122DIW-S865D1440U935-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	93	88	84	80	84	80	76	73	63	61	59	48	47	45	35	34	33
2	84	77	70	65	76	69	64	59	55	51	48	42	39	37	30	28	27
3	77	67	59	53	69	60	54	49	48	43	40	37	33	31	26	24	22
4	70	59	51	45	63	53	46	41	42	37	33	32	29	26	23	21	19
5	64	52	44	38	57	47	40	35	38	33	28	29	25	22	21	18	16
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14
7	54	42	34	28	49	38	31	26	31	25	21	24	20	17	17	14	12
8	50	38	30	25	45	34	28	23	28	23	19	21	18	15	16	13	11
9	47	34	27	22	42	31	25	20	25	20	17	20	16	13	14	12	10
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.7	0.9
10°-20°	214.2	2.7
20°-30°	324.6	4.1
30°-40°	395.4	5.0
40°-50°	425.3	5.3
50°-60°	413.1	5.2
60°-70°	360.7	4.5
70°-80°	277.7	3.5
80°-90°	190.5	2.4
90°-100°	184.8	2.3
100°-110°	300.8	3.8
110°-120°	615.3	7.7
120°-130°	948.0	11.9
130°-140°	985.9	12.4
140°-150°	905.4	11.4
150°-160°	726.0	9.1
160°-170°	467.8	5.9
170°-180°	161.0	2.0
0°-30°	613.5	7.7
0°-40°	1008.9	12.7
0°-60°	1847.2	23.2
0°-90°	2676.1	33.6
90°-120°	1100.9	13.8
90°-150°	3940.3	49.4
90°-180°	5295.0	66.4
0°-180°	7971.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	13	93	175	225	243	11
95°	89	106	179	227	241	105
105°	378	429	173	224	244	404
115°	709	745	824	317	216	697
125°	998	1016	1074	1112	1127	890
135°	1233	1253	1275	1310	1318	952
145°	1429	1429	1449	1463	1464	894
155°	1574	1564	1577	1584	1575	725
165°	1658	1651	1654	1662	1654	468
175°	1696	1688	1690	1697	1686	161
180°	1692	1692	1692	1692	1692	



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CATALOG NUMBER: S122DIW-S865D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.6	38.4	54.1	69.8	85.6	101.8	118.5	135.2	151.8	168.5	179.2
90°	12.7	30.4	48.1	65.8	83.5	101.6	120.0	138.4	156.9	175.3	186.8
92.5°	35.2	48.6	62.2	75.6	89.0	104.1	120.8	137.5	154.3	171.0	181.7
95°	88.8	91.7	94.6	97.6	100.6	110.6	127.8	144.9	162.0	179.2	190.2
97.5°	166.0	151.3	136.6	121.9	107.2	109.3	128.4	147.4	166.4	185.5	196.0
100°	224.7	196.8	168.9	141.1	113.2	108.7	127.5	146.4	165.2	184.1	195.6
102.5°	288.5	289.2	289.9	290.6	291.3	279.1	254.3	229.4	204.5	179.6	191.7
105°	378.0	393.5	409.1	424.6	440.1	417.3	356.2	295.2	234.0	173.0	184.9
107.5°	481.4	493.8	506.3	518.8	531.2	499.3	422.8	346.4	269.9	193.5	199.0
110°	547.1	557.8	568.6	579.5	590.2	562.5	496.3	430.1	363.9	297.7	278.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	609.8	619.1	628.4	637.7	647.0	647.9	640.3	632.7	625.1	617.5	526.4
115°	708.7	716.1	723.5	730.9	738.4	751.2	769.4	787.6	805.9	824.1	705.8
117.5°	796.0	803.0	809.9	816.9	824.0	835.1	850.3	865.6	880.8	896.0	873.1
120°	860.6	865.7	870.8	875.9	881.0	891.0	906.1	921.2	936.3	951.3	961.7
122.5°	915.5	920.2	924.9	929.6	934.3	944.1	959.0	973.9	988.7	1003.6	1012.4
125°	997.8	1001.3	1005.0	1008.5	1012.0	1020.4	1033.7	1047.0	1060.3	1073.6	1082.4
127.5°	1073.5	1077.2	1080.8	1084.5	1088.2	1095.2	1105.6	1116.0	1126.4	1136.9	1145.9
130°	1121.5	1125.6	1129.7	1133.9	1137.9	1144.1	1152.4	1160.8	1169.2	1177.4	1186.5
132.5°	1170.5	1174.0	1177.4	1180.9	1184.3	1189.6	1196.7	1203.8	1210.9	1218.0	1226.4
135°	1233.0	1237.4	1241.7	1246.1	1250.4	1255.2	1260.1	1265.1	1270.1	1275.1	1283.1
137.5°	1297.4	1300.5	1303.5	1306.5	1309.4	1312.9	1316.8	1320.7	1324.6	1328.4	1335.8
140°	1339.5	1341.5	1343.4	1345.3	1347.3	1350.0	1353.5	1357.0	1360.5	1364.0	1370.5
142.5°	1374.8	1376.6	1378.3	1379.9	1381.6	1384.3	1387.8	1391.4	1394.9	1398.4	1403.9
145°	1429.1	1428.7	1428.5	1428.2	1428.0	1430.1	1434.8	1439.4	1444.0	1448.6	1452.1
147.5°	1477.3	1476.3	1475.2	1474.2	1473.2	1474.9	1479.5	1484.1	1488.7	1493.2	1494.9
150°	1508.6	1506.8	1504.9	1503.0	1501.0	1502.3	1506.6	1511.0	1515.3	1519.7	1521.3
152.5°	1535.1	1533.0	1530.9	1528.7	1526.6	1527.6	1531.7	1535.9	1540.0	1544.1	1545.8
155°	1573.6	1571.1	1568.7	1566.2	1563.7	1564.2	1567.5	1570.7	1574.0	1577.2	1578.8
157.5°	1603.7	1601.6	1599.6	1597.5	1595.4	1595.5	1597.8	1600.1	1602.3	1604.6	1606.5
160°	1621.3	1619.6	1618.1	1616.4	1614.8	1614.8	1616.4	1618.1	1619.6	1621.3	1622.9
162.5°	1636.9	1635.4	1633.7	1632.1	1630.5	1630.3	1631.8	1633.1	1634.6	1636.0	1637.9
165°	1658.0	1656.4	1654.8	1653.1	1651.5	1651.1	1651.9	1652.7	1653.6	1654.3	1656.3
167.5°	1673.7	1672.1	1670.4	1668.8	1667.2	1666.7	1667.5	1668.3	1669.0	1669.8	1671.7
170°	1682.6	1680.9	1679.3	1677.7	1676.0	1675.4	1676.0	1676.5	1677.1	1677.7	1679.6
172.5°	1688.4	1686.8	1685.1	1683.5	1681.9	1681.4	1681.9	1682.4	1683.0	1683.5	1685.4
175°	1696.0	1694.1	1692.2	1690.3	1688.4	1687.7	1688.2	1688.8	1689.4	1689.9	1691.8
177.5°	1697.2	1695.7	1694.2	1692.6	1691.1	1690.5	1690.7	1690.9	1691.1	1691.3	1692.9
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	189.8	200.4	211.0	218.0	221.4	224.7	228.1	231.4
90°	198.4	209.8	221.4	228.9	232.5	236.1	239.7	243.3
92.5°	192.3	202.9	213.6	220.7	224.0	227.4	230.7	234.1
95°	201.1	212.2	223.2	230.1	232.8	235.7	238.4	241.2
97.5°	206.5	217.0	227.4	234.3	237.6	241.0	244.3	247.6
100°	207.2	218.8	230.3	237.8	241.2	244.4	247.8	251.2
102.5°	203.6	215.7	227.7	235.5	239.0	242.6	246.2	249.7
105°	196.7	208.6	220.5	228.3	232.2	236.1	240.0	243.8
107.5°	204.4	209.9	215.4	220.1	223.9	227.8	231.7	235.6
110°	259.5	240.5	221.4	213.8	217.7	221.5	225.4	229.3



TEST NUMBER: P331581-935

CATALOG NUMBER: S122DIW-S865D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.2	344.1	253.0	209.2	212.8	216.5	220.2	223.9
115°	587.4	469.0	350.6	283.0	266.2	249.4	232.6	215.8
117.5°	850.2	827.2	804.2	761.8	700.0	638.3	576.4	514.6
120°	972.1	982.4	992.8	981.0	947.1	913.1	879.2	845.2
122.5°	1021.3	1030.2	1039.1	1041.1	1036.4	1031.7	1026.9	1022.2
125°	1091.1	1099.8	1108.6	1114.6	1117.7	1120.8	1123.9	1127.0
127.5°	1155.0	1164.1	1173.2	1178.9	1181.3	1183.7	1186.1	1188.5
130°	1195.6	1204.7	1213.8	1219.2	1221.0	1222.7	1224.5	1226.2
132.5°	1234.9	1243.4	1251.8	1256.9	1258.6	1260.4	1262.1	1263.9
135°	1291.2	1299.2	1307.3	1312.1	1313.5	1315.0	1316.6	1318.0
137.5°	1343.2	1350.5	1357.8	1361.8	1362.7	1363.5	1364.3	1365.1
140°	1377.0	1383.5	1390.0	1393.4	1393.5	1393.7	1393.9	1394.0
142.5°	1409.4	1414.9	1420.3	1423.1	1423.0	1423.0	1422.9	1422.9
145°	1455.5	1459.0	1462.3	1464.0	1464.0	1463.9	1463.8	1463.6
147.5°	1496.4	1498.1	1499.7	1500.2	1499.7	1499.2	1498.7	1498.1
150°	1522.9	1524.6	1526.2	1526.3	1525.0	1523.6	1522.2	1520.9
152.5°	1547.4	1549.0	1550.7	1550.6	1548.8	1547.0	1545.2	1543.4
155°	1580.5	1582.1	1583.7	1583.5	1581.3	1579.2	1576.9	1574.8
157.5°	1608.3	1610.2	1612.1	1611.9	1609.8	1607.7	1605.5	1603.4
160°	1624.5	1626.2	1627.8	1627.7	1625.8	1623.8	1622.0	1620.1
162.5°	1639.7	1641.6	1643.4	1643.1	1640.8	1638.5	1636.2	1633.8
165°	1658.2	1660.1	1662.0	1662.0	1660.1	1658.2	1656.3	1654.3
167.5°	1673.6	1675.5	1677.4	1677.1	1674.7	1672.2	1669.8	1667.3
170°	1681.4	1683.3	1685.2	1685.0	1682.6	1680.1	1677.7	1675.2
172.5°	1687.3	1689.2	1691.1	1690.8	1688.4	1685.9	1683.5	1681.0
175°	1693.7	1695.6	1697.5	1697.1	1694.4	1691.6	1688.9	1686.2
177.5°	1694.4	1695.9	1697.5	1697.2	1695.2	1693.3	1691.3	1689.4
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3

(END OF REPORT)