

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: P332855-840

Luminaire Tested: **S124DIW-S1195D1340U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332855-840
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-S1195D1340U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10331.1 lumens
Efficiency: N/A
Efficacy: 135.6 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: General Diffuse

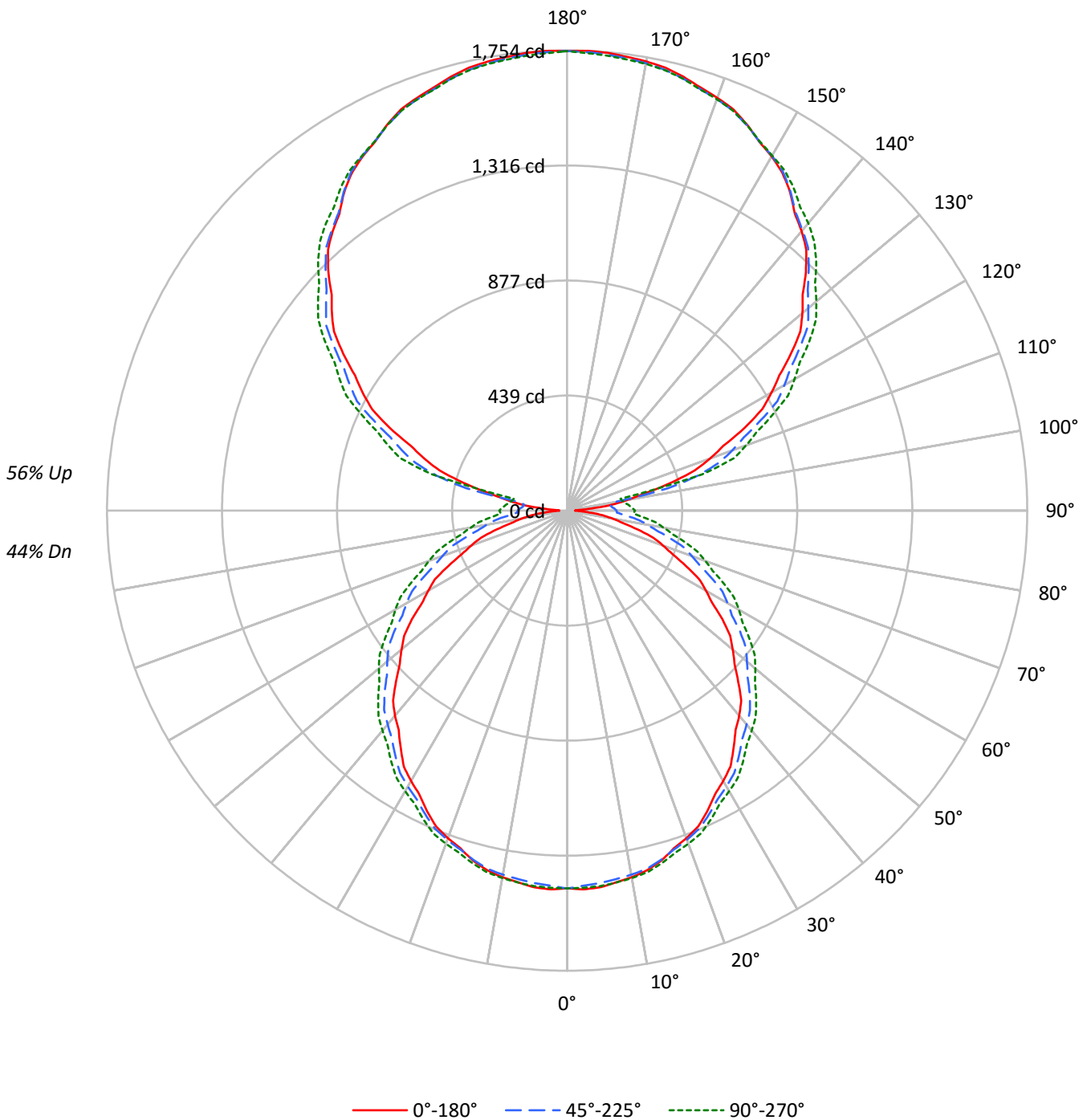
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIW-S1195D1340U840-4F0-1E-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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	96	91	87	83	87	83	80	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	52	48	45	43	38	36	34	29
3	79	69	61	55	72	63	57	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.3
10°-20°	390.7	3.8
20°-30°	590.8	5.7
30°-40°	714.8	6.9
40°-50°	755.7	7.3
50°-60°	711.2	6.9
60°-70°	590.1	5.7
70°-80°	414.5	4.0
80°-90°	239.4	2.3
90°-100°	199.0	1.9
100°-110°	484.9	4.7
110°-120°	799.7	7.7
120°-130°	966.4	9.4
130°-140°	1009.1	9.8
140°-150°	931.3	9.0
150°-160°	748.3	7.2
160°-170°	482.6	4.7
170°-180°	166.3	1.6
0°-30°	1117.8	10.8
0°-40°	1832.6	17.7
0°-60°	3299.5	31.9
0°-90°	4543.4	44.0
90°-120°	1483.6	14.4
90°-150°	4390.5	42.5
90°-180°	5788.0	56.0
0°-180°	10331.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	30	109	188	241	259	20
95°	93	105	169	219	236	109
105°	409	450	515	562	533	429
115°	746	766	815	851	864	734
125°	1041	1047	1083	1116	1128	930
135°	1287	1287	1302	1330	1343	992
145°	1482	1484	1484	1495	1504	926
155°	1623	1624	1620	1625	1622	748
165°	1712	1706	1706	1715	1704	484
175°	1751	1744	1745	1755	1741	167
180°	1751	1751	1751	1751	1751	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.5	63.8	79.1	94.3	109.6	125.2	141.5	157.6	173.8	190.0	200.7
90°	29.7	47.3	64.8	82.3	99.9	117.5	135.2	153.0	170.8	188.4	200.6
92.5°	41.0	54.1	67.2	80.3	93.3	108.8	126.4	144.2	162.0	179.7	191.6
95°	93.0	94.9	96.8	98.8	100.7	109.2	124.1	139.2	154.1	169.2	180.6
97.5°	172.0	188.3	204.7	221.1	237.4	236.6	218.6	200.8	182.8	164.9	174.4
100°	232.6	247.1	261.7	276.2	290.7	285.0	258.7	232.6	206.4	180.2	184.9
102.5°	301.7	313.8	325.8	337.8	349.7	360.0	368.4	376.9	385.4	393.7	349.8
105°	408.8	417.7	426.6	435.6	444.4	456.3	471.0	485.6	500.4	515.1	526.6
107.5°	510.9	517.7	524.4	531.1	537.9	548.6	563.0	577.5	592.1	606.6	616.7
110°	578.8	584.6	590.6	596.4	602.3	612.4	626.7	641.0	655.3	669.5	678.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	644.5	650.6	656.5	662.6	668.6	678.0	690.7	703.6	716.3	729.1	737.0
115°	745.8	749.9	754.0	758.1	762.2	769.8	781.0	792.2	803.3	814.6	823.0
117.5°	838.5	841.6	844.7	847.8	850.9	858.1	869.4	880.7	892.0	903.3	910.7
120°	900.1	902.3	904.5	906.8	909.0	915.2	925.3	935.4	945.5	955.6	963.3
122.5°	958.8	959.7	960.6	961.5	962.4	968.0	978.2	988.5	998.7	1008.9	1016.4
125°	1041.3	1042.1	1042.9	1043.7	1044.5	1049.0	1057.4	1065.8	1074.2	1082.6	1090.3
127.5°	1120.5	1120.4	1120.4	1120.3	1120.2	1124.4	1132.6	1140.8	1149.0	1157.2	1163.5
130°	1170.6	1170.5	1170.4	1170.4	1170.3	1173.6	1180.2	1186.8	1193.5	1200.0	1206.8
132.5°	1217.8	1217.9	1218.1	1218.3	1218.4	1221.3	1227.1	1232.7	1238.4	1244.2	1250.6
135°	1286.9	1286.6	1286.3	1286.0	1285.8	1287.4	1291.1	1294.7	1298.4	1302.1	1308.4
137.5°	1349.5	1349.3	1349.0	1348.8	1348.6	1349.7	1352.1	1354.6	1357.2	1359.7	1365.5
140°	1390.4	1390.6	1390.8	1391.0	1391.3	1391.8	1392.8	1393.7	1394.6	1395.6	1401.1
142.5°	1425.7	1426.7	1427.7	1428.7	1429.7	1430.2	1430.4	1430.5	1430.6	1430.8	1435.4
145°	1481.8	1482.3	1482.8	1483.3	1483.8	1484.1	1484.1	1484.1	1484.1	1484.1	1486.5
147.5°	1526.5	1527.8	1529.0	1530.3	1531.7	1532.2	1531.9	1531.6	1531.3	1531.0	1531.5
150°	1559.0	1559.8	1560.6	1561.5	1562.3	1562.5	1562.3	1562.0	1561.7	1561.4	1561.4
152.5°	1585.0	1585.9	1586.7	1587.6	1588.4	1588.6	1588.1	1587.5	1587.0	1586.5	1587.0
155°	1623.0	1623.2	1623.5	1623.8	1624.1	1623.8	1623.0	1622.0	1621.1	1620.3	1621.4
157.5°	1655.2	1655.0	1654.8	1654.6	1654.5	1653.9	1652.8	1651.8	1650.9	1649.9	1651.4
160°	1674.0	1673.1	1672.2	1671.3	1670.5	1669.9	1669.6	1669.3	1669.0	1668.8	1670.5
162.5°	1690.7	1689.6	1688.6	1687.5	1686.4	1685.7	1685.4	1685.1	1684.8	1684.5	1686.2
165°	1712.0	1710.5	1709.1	1707.6	1706.2	1705.5	1705.5	1705.5	1705.5	1705.5	1707.8
167.5°	1728.8	1727.3	1725.8	1724.2	1722.7	1721.8	1721.7	1721.5	1721.3	1721.1	1723.7
170°	1738.2	1736.5	1734.6	1732.9	1731.2	1730.5	1730.7	1731.0	1731.3	1731.6	1733.9
172.5°	1744.4	1742.7	1741.0	1739.2	1737.5	1736.8	1737.1	1737.4	1737.6	1737.9	1740.2
175°	1751.3	1749.5	1747.8	1746.1	1744.2	1743.5	1743.8	1744.1	1744.4	1744.7	1747.4
177.5°	1754.4	1752.8	1751.1	1749.5	1747.9	1747.3	1747.8	1748.3	1748.7	1749.2	1751.0
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	211.4	222.2	232.9	239.8	243.2	246.4	249.7	253.0
90°	212.8	224.9	237.0	244.8	248.2	251.7	255.2	258.6
92.5°	203.4	215.2	227.1	234.5	237.5	240.4	243.5	246.4
95°	192.0	203.4	214.8	222.3	225.8	229.3	232.8	236.3
97.5°	184.0	193.6	203.1	209.5	213.0	216.3	219.7	223.1
100°	189.7	194.4	199.1	202.9	205.7	208.4	211.3	214.1
102.5°	305.8	261.9	217.8	197.2	200.1	203.0	205.8	208.6
105°	538.3	549.9	561.4	563.4	555.8	548.2	540.6	532.9
107.5°	626.8	636.9	647.0	653.9	657.5	661.3	664.9	668.6
110°	687.2	696.0	704.9	711.1	714.9	718.6	722.4	726.1



TEST NUMBER: P332855-840

CATALOG NUMBER: S124DIW-S1195D1340U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	744.8	752.7	760.5	766.4	770.3	774.4	778.3	782.2
115°	831.5	839.9	848.4	853.9	856.4	858.9	861.4	863.9
117.5°	918.1	925.3	932.7	937.8	940.5	943.3	946.0	948.8
120°	971.1	978.9	986.6	991.6	993.9	996.2	998.5	1000.8
122.5°	1023.9	1031.5	1038.9	1043.7	1045.7	1047.7	1049.7	1051.7
125°	1097.9	1105.6	1113.3	1118.3	1120.7	1123.3	1125.7	1128.1
127.5°	1169.8	1176.1	1182.3	1186.6	1188.8	1190.9	1193.2	1195.4
130°	1213.6	1220.2	1227.0	1231.4	1233.6	1235.8	1237.9	1240.0
132.5°	1257.1	1263.4	1269.9	1274.1	1276.1	1278.0	1279.9	1281.8
135°	1314.7	1321.0	1327.4	1331.9	1334.6	1337.4	1340.1	1342.8
137.5°	1371.4	1377.3	1383.1	1386.8	1388.5	1390.1	1391.7	1393.3
140°	1406.6	1412.2	1417.7	1421.5	1423.6	1425.7	1427.7	1429.9
142.5°	1440.2	1444.9	1449.7	1452.8	1454.3	1455.9	1457.4	1459.1
145°	1488.9	1491.4	1493.8	1496.0	1498.0	1500.1	1502.1	1504.1
147.5°	1532.0	1532.5	1533.1	1534.0	1535.5	1536.9	1538.3	1539.7
150°	1561.4	1561.4	1561.4	1561.5	1561.8	1562.1	1562.4	1562.7
152.5°	1587.4	1587.9	1588.3	1588.5	1588.3	1588.1	1588.0	1587.8
155°	1622.7	1623.8	1625.0	1625.1	1624.3	1623.4	1622.4	1621.6
157.5°	1652.9	1654.5	1656.0	1656.0	1654.5	1652.9	1651.4	1649.9
160°	1672.2	1674.0	1675.8	1675.8	1674.0	1672.2	1670.5	1668.8
162.5°	1688.0	1689.7	1691.4	1691.3	1689.4	1687.4	1685.4	1683.4
165°	1710.1	1712.4	1714.8	1714.5	1712.0	1709.4	1706.8	1704.1
167.5°	1726.3	1728.8	1731.4	1731.2	1728.3	1725.4	1722.5	1719.6
170°	1736.3	1738.6	1740.9	1740.6	1737.8	1734.8	1731.9	1729.0
172.5°	1742.5	1744.9	1747.3	1746.9	1743.6	1740.5	1737.4	1734.2
175°	1750.0	1752.6	1755.2	1754.7	1751.3	1747.8	1744.2	1740.8
177.5°	1752.9	1754.7	1756.7	1756.2	1753.3	1750.6	1747.8	1744.9
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3

(END OF REPORT)