

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: P332085-830

Luminaire Tested: **S123DIP-S1165D1195U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332085-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1195U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8437.2 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

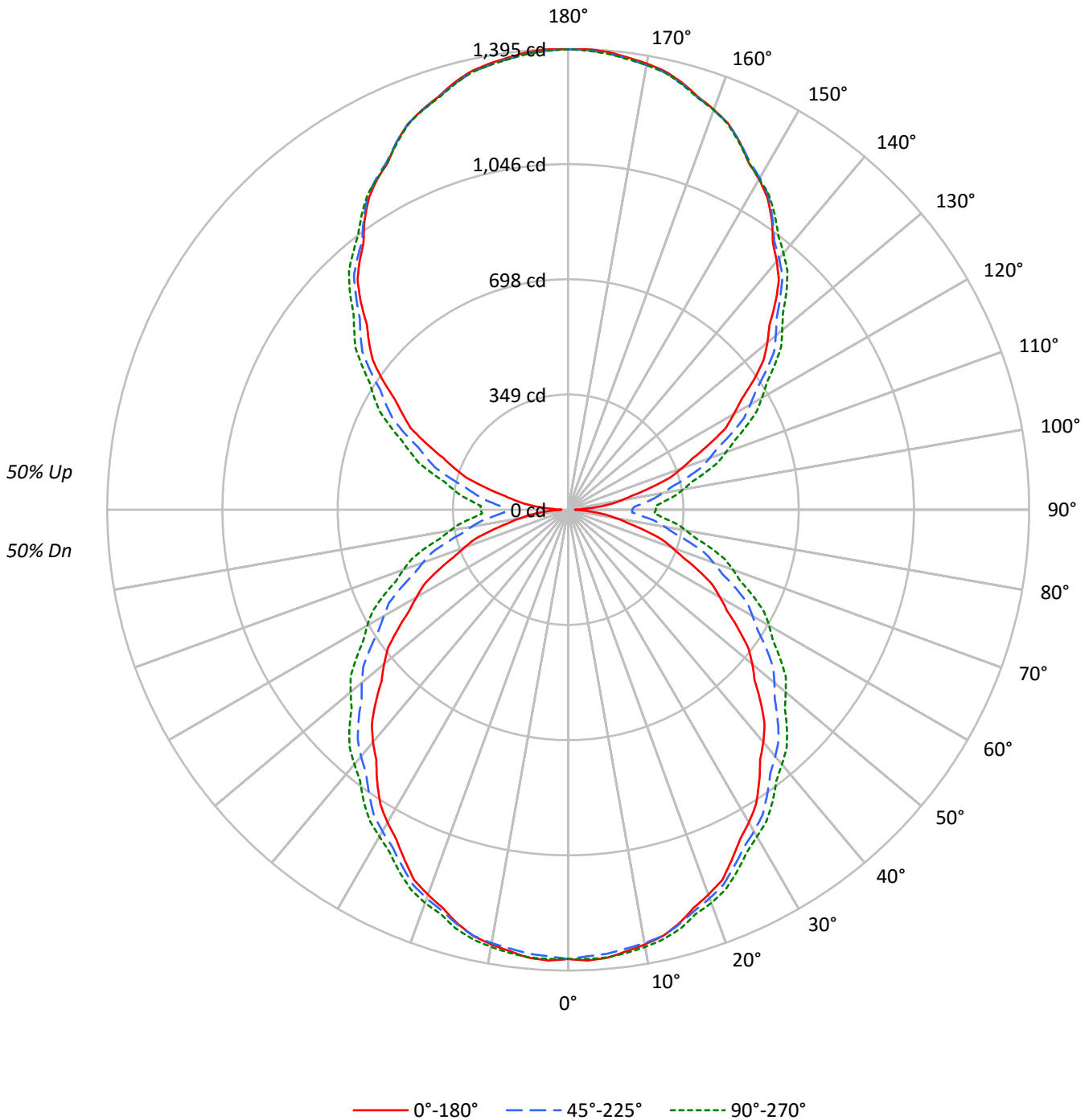
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.5
10°-20°	367.5	4.4
20°-30°	549.7	6.5
30°-40°	656.5	7.8
40°-50°	686.9	8.1
50°-60°	644.6	7.6
60°-70°	538.3	6.4
70°-80°	385.2	4.6
80°-90°	233.8	2.8
90°-100°	234.9	2.8
100°-110°	377.7	4.5
110°-120°	533.1	6.3
120°-130°	648.5	7.7
130°-140°	701.7	8.3
140°-150°	675.8	8.0
150°-160°	565.7	6.7
160°-170°	376.5	4.5
170°-180°	131.8	1.6
0°-30°	1046.2	12.4
0°-40°	1702.7	20.2
0°-60°	3034.1	36.0
0°-90°	4191.5	49.7
90°-120°	1145.7	13.6
90°-150°	3171.7	37.6
90°-180°	4246.0	50.3
0°-180°	8437.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	104	194	246	265	17
95°	81	147	228	276	293	85
105°	258	298	370	410	427	276
115°	473	496	545	580	592	468
125°	686	691	730	755	762	612
135°	887	892	907	928	934	683
145°	1074	1074	1078	1088	1090	670
155°	1228	1228	1229	1232	1225	565
165°	1337	1334	1334	1340	1333	377
175°	1391	1387	1386	1392	1385	132
180°	1394	1394	1394	1394	1394	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.6	73.4	90.3	107.2	124.3	141.8	159.2	176.6	194.0	205.4
90°	20.4	38.9	57.5	76.1	94.6	113.9	133.8	153.8	173.7	193.7	205.9
92.5°	44.6	60.8	77.0	93.2	109.4	126.7	145.0	163.3	181.6	200.0	211.7
95°	80.9	95.5	110.0	124.5	139.1	155.4	173.5	191.5	209.6	227.7	238.9
97.5°	129.3	142.1	155.0	167.9	180.7	195.6	212.4	229.2	246.0	262.8	273.7
100°	162.3	174.3	186.2	198.2	210.3	224.4	240.8	257.1	273.5	289.9	300.2
102.5°	200.5	210.8	221.2	231.6	242.0	255.3	271.8	288.3	304.8	321.3	331.3
105°	258.3	266.6	275.0	283.4	291.8	304.2	320.6	336.9	353.3	369.6	378.8
107.5°	324.0	330.9	338.0	345.0	351.9	362.6	376.9	391.2	405.6	419.9	429.4
110°	364.8	371.2	377.7	384.1	390.5	400.5	414.2	427.8	441.5	455.2	464.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	408.6	413.8	419.0	424.1	429.2	438.2	451.0	463.7	476.5	489.2	498.6
115°	472.9	477.5	482.2	486.9	491.5	499.5	511.0	522.4	533.7	545.1	553.2
117.5°	538.7	541.6	544.5	547.4	550.4	557.0	567.6	578.1	588.6	599.1	606.8
120°	578.7	581.7	584.8	588.0	591.1	597.5	607.1	616.8	626.4	636.0	643.4
122.5°	621.6	623.5	625.5	627.4	629.3	635.1	644.8	654.5	664.2	673.9	680.6
125°	685.6	686.4	687.1	687.8	688.5	693.4	702.5	711.5	720.6	729.7	735.7
127.5°	746.0	747.2	748.5	749.8	751.0	755.3	762.6	770.0	777.4	784.8	789.9
130°	786.4	788.0	789.6	791.2	792.9	796.5	802.4	808.3	814.2	820.0	825.3
132.5°	825.5	827.4	829.2	831.1	833.0	836.3	841.0	845.7	850.6	855.3	860.1
135°	886.7	887.9	889.0	890.1	891.3	893.5	896.9	900.2	903.6	907.0	912.0
137.5°	943.4	944.3	945.3	946.2	947.2	949.0	951.7	954.3	957.1	959.7	963.8
140°	981.7	982.8	984.0	985.2	986.5	987.7	988.9	990.1	991.4	992.6	997.3
142.5°	1017.6	1018.5	1019.5	1020.4	1021.3	1022.2	1022.8	1023.4	1024.1	1024.7	1028.9
145°	1073.7	1073.7	1073.9	1074.1	1074.2	1074.7	1075.4	1076.1	1076.9	1077.6	1080.0
147.5°	1121.2	1122.1	1122.9	1123.8	1124.7	1125.5	1126.1	1126.8	1127.5	1128.2	1129.0
150°	1155.4	1155.8	1156.3	1156.8	1157.3	1157.8	1158.3	1158.8	1159.2	1159.7	1159.7
152.5°	1183.4	1184.1	1184.8	1185.4	1186.1	1186.6	1186.8	1187.2	1187.5	1187.8	1188.2
155°	1227.7	1227.7	1227.7	1227.7	1227.7	1227.8	1228.0	1228.2	1228.5	1228.7	1229.7
157.5°	1265.3	1265.0	1264.7	1264.4	1264.1	1264.0	1264.3	1264.5	1264.7	1264.9	1265.9
160°	1288.9	1288.5	1288.0	1287.5	1287.0	1286.8	1286.8	1286.8	1286.8	1286.8	1288.0
162.5°	1309.9	1309.3	1308.6	1308.0	1307.3	1307.0	1307.2	1307.4	1307.6	1307.8	1309.0
165°	1337.2	1336.4	1335.7	1334.9	1334.3	1333.9	1333.9	1333.9	1333.9	1333.9	1335.3
167.5°	1358.9	1357.8	1356.9	1355.9	1354.9	1354.5	1354.7	1354.9	1355.1	1355.3	1356.8
170°	1371.1	1370.1	1369.1	1368.2	1367.2	1366.7	1366.7	1366.7	1366.7	1366.7	1368.4
172.5°	1380.7	1379.8	1378.8	1377.8	1376.9	1376.4	1376.4	1376.4	1376.4	1376.4	1377.9
175°	1390.8	1389.9	1388.8	1387.9	1387.0	1386.4	1386.4	1386.4	1386.4	1386.4	1387.9
177.5°	1395.0	1394.2	1393.5	1392.6	1391.9	1391.5	1391.5	1391.5	1391.5	1391.5	1392.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	216.8	228.2	239.6	246.9	250.3	253.7	257.1	260.5
90°	218.0	230.2	242.3	250.3	254.1	257.9	261.6	265.4
92.5°	223.4	235.2	246.9	254.0	256.7	259.5	262.3	265.0
95°	250.1	261.3	272.4	279.7	283.0	286.3	289.5	292.8
97.5°	284.6	295.6	306.5	313.6	316.8	320.0	323.2	326.4
100°	310.5	320.7	331.0	338.0	341.8	345.5	349.4	353.2
102.5°	341.4	351.4	361.4	368.0	371.2	374.4	377.6	380.8
105°	388.0	397.2	406.4	412.7	416.2	419.7	423.1	426.6
107.5°	439.0	448.7	458.3	464.4	467.0	469.6	472.2	474.8
110°	474.2	483.7	493.2	499.1	501.2	503.4	505.6	507.7



TEST NUMBER: P332085-830

CATALOG NUMBER: S123DIP-S1165D1195U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	508.1	517.6	527.1	533.2	535.9	538.8	541.6	544.4
115°	561.4	569.5	577.6	582.9	585.3	587.7	590.0	592.5
117.5°	614.6	622.5	630.2	635.1	637.0	638.9	640.7	642.6
120°	650.7	658.1	665.3	670.0	671.8	673.6	675.4	677.2
122.5°	687.3	694.0	700.7	704.8	706.4	708.0	709.6	711.3
125°	741.6	747.5	753.5	757.1	758.4	759.7	761.1	762.4
127.5°	795.0	800.2	805.4	808.5	809.6	810.8	811.8	812.9
130°	830.6	835.8	841.1	843.9	844.1	844.4	844.7	845.0
132.5°	864.9	869.7	874.5	877.4	878.4	879.3	880.1	881.1
135°	916.9	921.9	926.8	929.9	931.0	932.2	933.4	934.5
137.5°	968.1	972.2	976.4	978.8	979.6	980.3	981.0	981.8
140°	1002.0	1006.7	1011.4	1013.7	1013.7	1013.6	1013.5	1013.5
142.5°	1033.0	1037.2	1041.3	1043.6	1044.0	1044.2	1044.6	1044.9
145°	1082.4	1084.8	1087.1	1088.5	1088.9	1089.2	1089.6	1089.9
147.5°	1129.7	1130.6	1131.3	1131.6	1131.3	1131.1	1130.8	1130.5
150°	1159.7	1159.7	1159.7	1159.3	1158.6	1157.7	1157.0	1156.1
152.5°	1188.5	1188.9	1189.3	1188.9	1187.8	1186.7	1185.5	1184.4
155°	1230.7	1231.6	1232.7	1232.3	1230.6	1228.9	1227.2	1225.4
157.5°	1266.9	1267.9	1268.9	1268.8	1267.4	1266.0	1264.7	1263.3
160°	1289.2	1290.4	1291.7	1291.8	1290.8	1289.8	1288.8	1287.9
162.5°	1310.2	1311.5	1312.7	1312.5	1310.9	1309.4	1307.8	1306.3
165°	1336.8	1338.2	1339.7	1339.5	1337.8	1336.1	1334.5	1332.8
167.5°	1358.3	1359.8	1361.3	1361.3	1359.8	1358.3	1356.8	1355.3
170°	1370.1	1371.9	1373.6	1373.6	1371.9	1370.1	1368.4	1366.7
172.5°	1379.4	1380.9	1382.4	1382.3	1380.5	1378.8	1377.1	1375.5
175°	1389.3	1390.8	1392.2	1392.1	1390.4	1388.7	1387.0	1385.3
177.5°	1393.8	1395.0	1396.1	1396.0	1394.7	1393.3	1391.9	1390.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1

(END OF REPORT)