

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: P332710-830

Luminaire Tested: **S124DIP-S1195D1205U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332710-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1205U830-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8514.1 lumens  
Efficiency: N/A  
Efficacy: 118.7 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

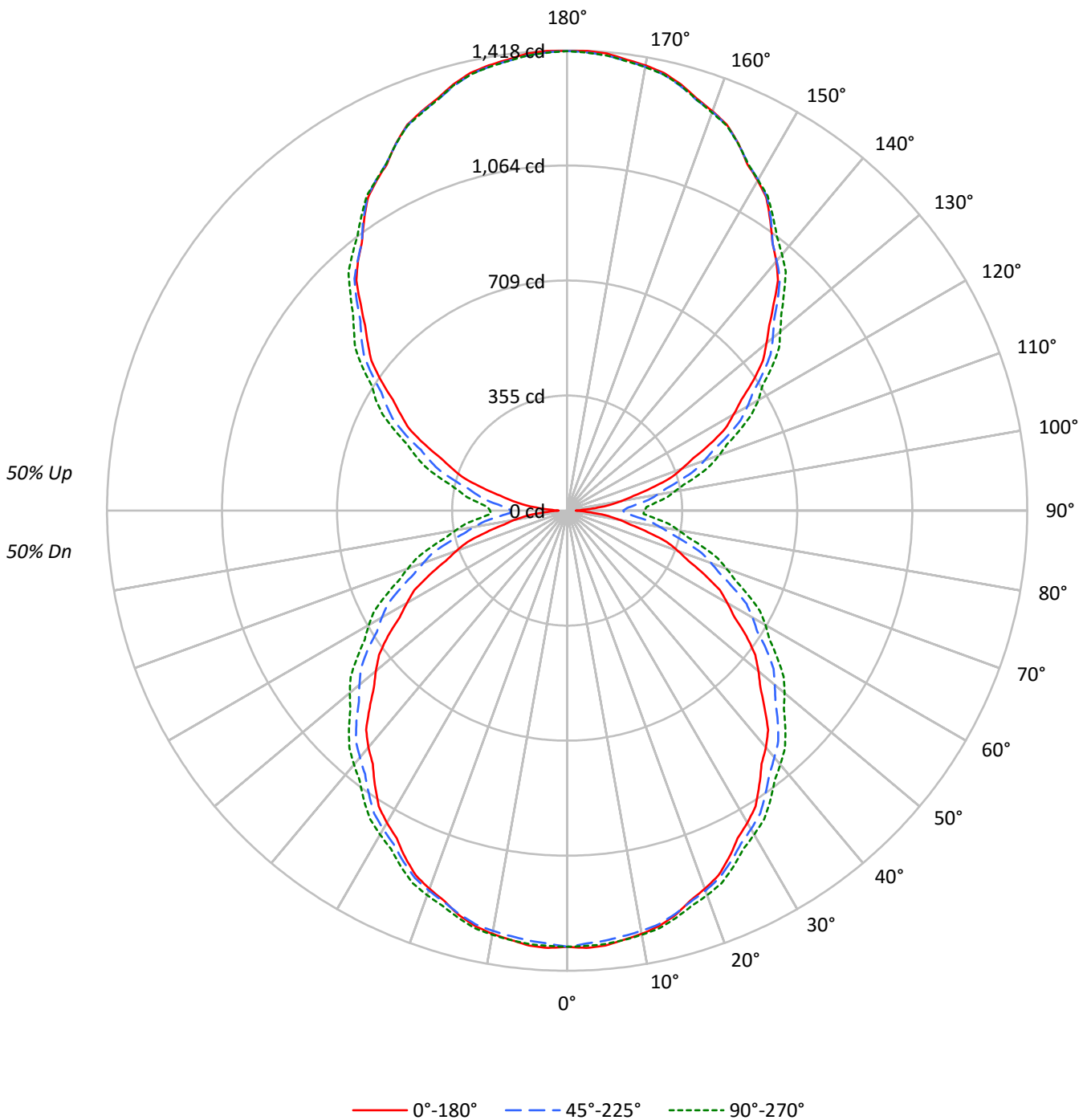
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	74	68	63	62	58	54	51	48	45	41	39	37	33
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	32	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	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	26	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	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	23	18	15	19	15	13	11

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	1.5
10°-20°	364.7	4.3
20°-30°	551.4	6.5
30°-40°	667.1	7.8
40°-50°	705.3	8.3
50°-60°	663.8	7.8
60°-70°	550.7	6.5
70°-80°	386.8	4.5
80°-90°	222.9	2.6
90°-100°	223.2	2.6
100°-110°	372.8	4.4
110°-120°	534.1	6.3
120°-130°	655.5	7.7
130°-140°	711.1	8.4
140°-150°	686.5	8.1
150°-160°	574.7	6.8
160°-170°	382.4	4.5
170°-180°	133.9	1.6
0°-30°	1043.3	12.3
0°-40°	1710.5	20.1
0°-60°	3079.5	36.2
0°-90°	4240.0	49.8
90°-120°	1130.1	13.3
90°-150°	3183.1	37.4
90°-180°	4274.0	50.2
0°-180°	8514.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	27	100	173	221	238	20
95°	85	145	214	256	272	89
105°	269	301	360	399	416	286
115°	486	502	546	577	588	480
125°	701	702	736	762	770	625
135°	900	907	917	938	945	696
145°	1091	1094	1095	1103	1106	683
155°	1248	1248	1247	1251	1247	574
165°	1359	1356	1354	1359	1356	383
175°	1414	1408	1407	1414	1407	134
180°	1416	1416	1416	1416	1416	



TEST NUMBER: P332710-830

CATALOG NUMBER: S124DIP-S1195D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	45.2	59.4	73.6	87.8	101.9	116.5	131.6	146.7	161.6	176.7	186.7
90°	27.3	43.5	59.5	75.5	91.6	107.7	124.1	140.4	156.7	173.1	184.3
92.5°	46.3	61.5	76.5	91.6	106.7	122.2	137.9	153.6	169.4	185.1	195.5
95°	85.3	98.5	111.7	125.0	138.2	152.5	168.0	183.3	198.8	214.1	223.9
97.5°	132.5	143.7	155.0	166.3	177.5	191.0	206.5	222.1	237.6	253.3	262.9
100°	169.8	179.6	189.2	198.9	208.6	221.0	236.2	251.5	266.7	281.9	291.4
102.5°	210.2	218.2	226.2	234.2	242.2	253.6	268.3	283.1	297.9	312.7	322.2
105°	268.7	275.6	282.6	289.5	296.4	306.5	319.9	333.3	346.6	360.0	369.0
107.5°	333.0	338.7	344.6	350.3	356.1	365.0	376.7	388.6	400.5	412.4	421.2
110°	375.6	380.8	386.0	391.1	396.2	404.6	416.0	427.5	438.9	450.4	457.6



TEST NUMBER: P332710-830

CATALOG NUMBER: S124DIP-S1195D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	419.9	424.1	428.5	432.7	437.0	444.4	455.2	465.9	476.6	487.4	494.6
115°	486.4	489.5	492.5	495.5	498.5	505.1	515.4	525.6	535.7	546.0	553.1
117.5°	550.5	552.5	554.6	556.6	558.6	564.4	574.0	583.6	593.2	602.9	609.0
120°	592.3	594.3	596.3	598.2	600.2	605.7	614.6	623.6	632.5	641.5	647.0
122.5°	637.0	637.5	638.1	638.8	639.3	644.0	652.8	661.7	670.5	679.3	685.1
125°	701.3	701.1	700.7	700.4	700.0	703.9	712.1	720.2	728.3	736.4	742.3
127.5°	760.8	761.3	761.7	762.0	762.4	765.6	771.7	777.7	783.7	789.8	795.3
130°	801.7	802.1	802.5	802.9	803.3	806.2	811.5	816.9	822.2	827.6	833.1
132.5°	844.6	844.8	845.0	845.3	845.5	847.5	851.7	855.7	859.9	863.9	869.2
135°	899.8	901.4	902.8	904.3	905.7	907.6	909.9	912.3	914.6	917.0	921.8
137.5°	961.6	962.0	962.3	962.6	963.0	963.9	965.4	967.0	968.6	970.1	974.3
140°	1002.8	1003.0	1003.1	1003.2	1003.4	1003.6	1004.0	1004.3	1004.7	1004.9	1009.1
142.5°	1039.2	1039.6	1040.1	1040.5	1040.9	1040.9	1040.6	1040.2	1039.7	1039.3	1043.1
145°	1091.1	1091.7	1092.3	1093.0	1093.6	1094.1	1094.3	1094.6	1094.8	1095.0	1096.8
147.5°	1142.7	1143.6	1144.4	1145.3	1146.1	1146.4	1146.2	1146.0	1145.8	1145.7	1145.8
150°	1174.3	1175.0	1175.5	1176.2	1176.9	1177.1	1177.1	1177.1	1177.1	1177.1	1177.1
152.5°	1202.9	1203.4	1203.9	1204.5	1204.9	1205.3	1205.5	1205.7	1205.9	1206.1	1206.6
155°	1248.3	1248.3	1248.3	1248.3	1248.3	1248.2	1248.0	1247.7	1247.5	1247.3	1248.2
157.5°	1286.9	1286.5	1286.0	1285.6	1285.2	1284.9	1284.9	1284.8	1284.8	1284.7	1285.4
160°	1309.7	1309.5	1309.2	1308.9	1308.7	1308.4	1308.2	1308.0	1307.7	1307.5	1308.2
162.5°	1330.7	1330.0	1329.5	1328.8	1328.1	1327.8	1327.5	1327.3	1327.0	1326.7	1328.0
165°	1359.0	1358.2	1357.4	1356.8	1356.0	1355.4	1354.9	1354.4	1354.0	1353.5	1354.9
167.5°	1380.6	1379.6	1378.6	1377.5	1376.6	1376.0	1376.1	1376.1	1376.2	1376.2	1377.7
170°	1392.9	1391.7	1390.4	1389.2	1388.0	1387.5	1387.8	1388.0	1388.3	1388.6	1390.0
172.5°	1401.7	1400.6	1399.6	1398.5	1397.6	1397.0	1397.1	1397.2	1397.2	1397.3	1398.9
175°	1413.7	1412.5	1411.3	1410.0	1408.8	1408.1	1407.9	1407.6	1407.4	1407.1	1408.8
177.5°	1417.7	1416.6	1415.7	1414.8	1413.7	1413.2	1413.2	1413.2	1413.2	1413.2	1414.7
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9



TEST NUMBER: P332710-830

CATALOG NUMBER: S124DIP-S1195D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	196.7	206.7	216.7	223.2	226.2	229.2	232.3	235.4
90°	195.4	206.6	217.7	224.9	228.1	231.2	234.4	237.5
92.5°	205.8	216.0	226.4	233.0	236.0	238.9	242.0	244.9
95°	233.7	243.5	253.2	259.6	262.6	265.6	268.6	271.6
97.5°	272.5	282.1	291.8	298.0	301.0	303.8	306.7	309.5
100°	301.0	310.5	320.0	325.9	328.3	330.6	332.9	335.3
102.5°	331.6	341.0	350.4	356.6	359.4	362.2	365.0	367.8
105°	378.1	387.2	396.3	402.6	406.0	409.3	412.7	416.2
107.5°	430.2	439.0	448.0	453.6	456.0	458.4	460.7	463.1
110°	464.9	472.0	479.3	484.6	488.0	491.3	494.7	498.2





TEST NUMBER: P332710-830

CATALOG NUMBER: S124DIP-S1195D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	502.0	509.3	516.6	521.7	524.5	527.4	530.2	533.0
115°	560.2	567.3	574.5	579.1	581.2	583.2	585.3	587.5
117.5°	615.1	621.2	627.4	631.6	633.8	635.9	638.1	640.3
120°	652.5	658.0	663.5	667.7	670.9	674.1	677.2	680.4
122.5°	691.1	696.9	702.8	706.4	708.0	709.5	711.1	712.6
125°	748.1	754.0	759.9	763.6	765.1	766.6	768.2	769.7
127.5°	800.9	806.3	811.9	815.7	817.6	819.4	821.3	823.2
130°	838.7	844.1	849.7	853.0	854.0	855.1	856.1	857.1
132.5°	874.5	879.8	885.0	888.4	890.0	891.6	893.2	894.9
135°	926.7	931.5	936.4	939.5	940.8	942.1	943.3	944.6
137.5°	978.5	982.8	987.0	990.0	991.9	993.7	995.5	997.3
140°	1013.1	1017.3	1021.4	1024.2	1025.6	1027.0	1028.4	1029.9
142.5°	1046.9	1050.7	1054.4	1057.0	1058.3	1059.7	1061.0	1062.4
145°	1098.5	1100.3	1102.1	1103.2	1103.9	1104.5	1105.1	1105.7
147.5°	1145.8	1145.8	1145.9	1146.4	1147.2	1148.0	1148.9	1149.7
150°	1177.1	1177.1	1177.1	1177.0	1176.8	1176.6	1176.3	1176.1
152.5°	1207.2	1207.9	1208.4	1208.4	1207.8	1207.1	1206.5	1205.9
155°	1249.2	1250.2	1251.1	1251.1	1250.2	1249.2	1248.2	1247.3
157.5°	1286.2	1286.9	1287.6	1287.6	1286.8	1285.9	1285.1	1284.3
160°	1308.9	1309.7	1310.4	1310.1	1308.9	1307.7	1306.6	1305.3
162.5°	1329.4	1330.7	1332.0	1332.1	1330.9	1329.6	1328.4	1327.2
165°	1356.4	1357.8	1359.3	1359.5	1358.6	1357.6	1356.6	1355.7
167.5°	1379.1	1380.6	1382.1	1382.1	1380.5	1379.0	1377.5	1376.0
170°	1391.5	1392.9	1394.4	1394.2	1392.5	1390.8	1389.1	1387.4
172.5°	1400.6	1402.2	1403.9	1403.9	1402.1	1400.4	1398.7	1397.0
175°	1410.5	1412.2	1413.9	1413.9	1412.2	1410.5	1408.8	1407.1
177.5°	1416.0	1417.4	1418.7	1418.6	1417.0	1415.5	1413.9	1412.4
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9

(END OF REPORT)