

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: P332606-840

Luminaire Tested: **S124DIP-S795D810U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332606-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S795D810U840-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

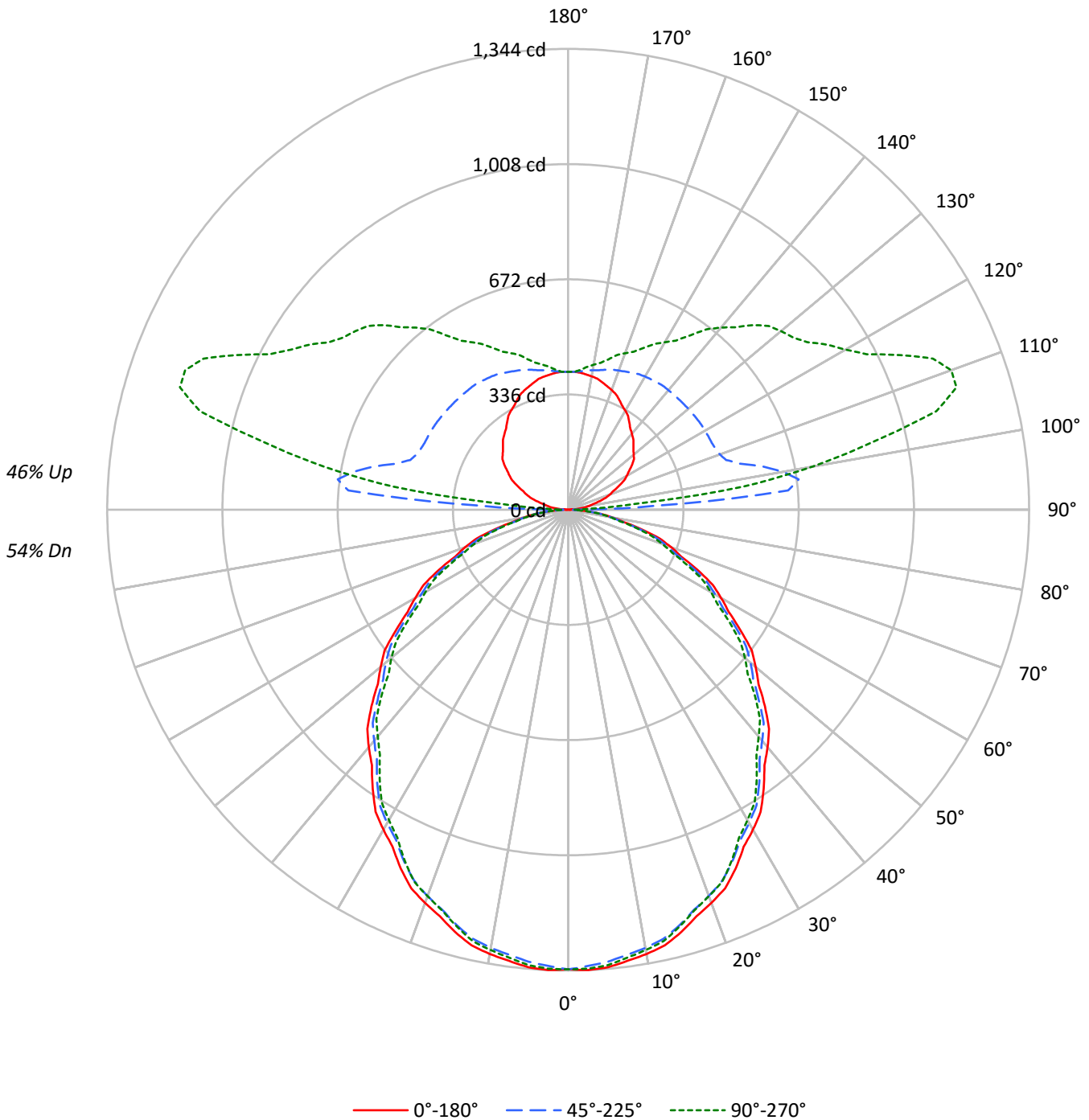
Lumens per Lamp: N/A  
Luminaire Lumens: 6365.4 lumens  
Efficiency: N/A  
Efficacy: 138.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	99	94	90	87	91	88	84	81	75	73	70	63	62	60	53	52	50	45
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	46	44	42	38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	42	41	38	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	39	35	32	33	30	27	24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	28	24	21	19
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

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

	0°	45°	90°
0°	10823	10823	10823
5°	10855	10724	10802
10°	10787	10637	10690
15°	10657	10486	10513
20°	10483	10299	10308
25°	10286	10085	10056
30°	10043	9833	9743
35°	9792	9570	9443
40°	9531	9271	9101
45°	9259	8977	8805
50°	8959	8715	8446
55°	8633	8376	8103
60°	8307	7995	7753
65°	7941	7633	7324
70°	7530	7152	6871
75°	6903	6569	6400
80°	6141	5890	5742
85°	5372	5169	5067



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.2	2.0
10°-20°	355.7	5.6
20°-30°	523.5	8.2
30°-40°	608.6	9.6
40°-50°	608.7	9.6
50°-60°	532.4	8.4
60°-70°	395.4	6.2
70°-80°	224.6	3.5
80°-90°	67.0	1.1
90°-100°	290.3	4.6
100°-110°	604.2	9.5
110°-120°	541.2	8.5
120°-130°	455.2	7.2
130°-140°	379.6	6.0
140°-150°	290.0	4.6
150°-160°	203.8	3.2
160°-170°	119.9	1.9
170°-180°	39.0	0.6
0°-30°	1005.5	15.8
0°-40°	1614.1	25.4
0°-60°	2755.2	43.3
0°-90°	3442.3	54.1
90°-120°	1435.7	22.6
90°-150°	2560.4	40.2
90°-180°	2923.0	45.9
0°-180°	6365.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1340	1335	1323	1334	1333	127
15°	1275	1270	1255	1260	1258	359
25°	1155	1147	1132	1133	1129	531
35°	994	986	971	964	958	621
45°	811	803	786	775	771	625
55°	613	609	595	583	576	549
65°	416	410	400	389	383	411
75°	221	216	211	206	205	235
85°	58	58	56	56	55	64
90°	1	6	14	16	17	5
95°	26	82	644	319	193	29
105°	92	134	518	1115	1111	99
115°	163	204	462	888	1067	161
125°	227	269	460	755	851	202
135°	269	321	456	670	761	208
145°	310	355	453	565	622	195
155°	353	381	441	499	520	163
165°	385	396	422	447	454	109
175°	401	402	405	411	409	38
180°	402	402	402	402	402	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1344.0	1343.4	1342.8	1342.3	1341.7	1340.4	1338.3	1336.2	1334.0	1332.0	1333.8
5°	1339.5	1338.6	1337.6	1336.7	1335.6	1333.8	1331.2	1328.6	1326.0	1323.3	1326.0
7.5°	1327.1	1326.1	1325.1	1324.1	1323.2	1321.3	1318.4	1315.5	1312.5	1309.6	1311.7
10°	1315.9	1314.9	1313.9	1313.0	1312.0	1310.0	1306.9	1303.8	1300.7	1297.6	1299.5
12.5°	1301.2	1300.3	1299.3	1298.4	1297.5	1295.3	1292.0	1288.7	1285.5	1282.1	1284.2
15°	1275.1	1274.0	1273.1	1272.1	1271.2	1269.0	1265.4	1261.8	1258.2	1254.7	1256.1
17.5°	1243.4	1242.2	1241.0	1239.9	1238.7	1236.4	1233.0	1229.6	1226.2	1222.8	1223.8
20°	1220.2	1219.0	1217.9	1216.7	1215.5	1213.0	1209.5	1205.9	1202.3	1198.8	1199.5
22.5°	1195.4	1193.8	1192.1	1190.6	1189.0	1186.5	1182.9	1179.3	1175.7	1172.2	1173.5
25°	1154.7	1153.1	1151.3	1149.7	1148.0	1145.5	1142.2	1138.8	1135.5	1132.2	1132.4
27.5°	1108.3	1106.6	1104.9	1103.2	1101.5	1099.0	1095.9	1092.9	1089.7	1086.6	1086.0
30°	1077.4	1075.5	1073.6	1071.7	1069.8	1067.2	1064.1	1061.1	1057.9	1054.8	1053.9
32.5°	1044.7	1043.0	1041.3	1039.6	1037.8	1035.3	1032.1	1028.7	1025.5	1022.2	1021.1
35°	993.6	991.9	990.3	988.6	986.9	984.4	981.1	977.8	974.4	971.1	969.4
37.5°	939.7	938.2	936.6	935.1	933.5	931.0	927.5	923.8	920.3	916.7	914.8
40°	904.4	902.5	900.6	898.7	896.8	894.0	890.5	886.9	883.3	879.7	877.4
42.5°	866.7	865.5	864.3	863.2	862.0	859.5	855.6	851.6	847.6	843.6	840.9
45°	811.0	809.3	807.7	806.0	804.4	801.5	797.8	794.0	790.1	786.3	783.7
47.5°	752.8	751.6	750.5	749.3	748.2	745.9	742.4	738.8	735.3	731.7	728.7
50°	713.3	712.3	711.3	710.3	709.4	707.3	704.0	700.6	697.2	693.9	690.5
52.5°	674.6	673.5	672.3	671.2	669.9	667.6	664.1	660.6	657.0	653.5	650.6
55°	613.4	612.6	611.9	611.2	610.5	608.4	605.1	601.8	598.4	595.1	592.2
57.5°	554.9	554.1	553.3	552.5	551.7	549.6	546.3	543.0	539.8	536.4	533.7
60°	514.5	513.3	512.1	511.0	509.8	507.6	504.5	501.4	498.3	495.2	493.0
62.5°	475.0	474.0	473.0	472.0	471.0	468.9	465.5	462.2	459.0	455.7	453.7
65°	415.7	414.5	413.3	412.1	410.9	409.1	406.8	404.3	401.9	399.6	397.2
67.5°	356.0	354.9	353.8	352.6	351.6	349.9	347.6	345.3	343.1	340.7	338.4
70°	319.0	317.4	315.7	314.0	312.4	310.5	308.6	306.7	304.8	303.0	301.0
72.5°	279.5	277.8	276.2	274.5	272.8	271.2	269.7	268.1	266.6	265.1	263.6
75°	221.3	220.0	218.9	217.7	216.5	215.3	214.1	212.9	211.8	210.6	209.5
77.5°	165.6	165.1	164.6	164.1	163.5	162.8	161.7	160.7	159.6	158.5	158.2
80°	132.1	131.4	130.7	130.0	129.3	128.7	128.2	127.7	127.2	126.7	126.2
82.5°	99.5	99.2	98.8	98.5	98.2	98.0	97.9	97.8	97.7	97.6	97.3
85°	58.0	58.0	58.0	58.0	58.0	57.8	57.3	56.9	56.4	55.8	55.8
87.5°	22.5	22.6	22.9	22.9	22.8	22.6	23.4	23.2	23.3	23.4	23.3
90°	0.8	2.3	4.7	5.6	6.4	6.4	11.0	11.0	12.6	14.2	13.4
92.5°	9.0	13.1	20.5	30.2	41.7	58.1	98.3	159.5	219.2	250.4	208.6
95°	26.1	28.4	36.4	46.6	65.5	98.7	167.4	296.9	485.6	643.6	661.8
97.5°	46.8	46.8	53.5	63.0	79.3	107.0	160.0	266.9	454.5	677.8	831.3
100°	60.0	60.0	65.5	75.0	90.0	115.3	161.9	251.2	412.2	634.9	837.0
102.5°	72.6	73.9	78.8	87.7	102.0	126.0	168.1	246.7	383.7	581.2	789.6
105°	92.4	94.7	98.7	108.2	122.4	145.3	183.2	248.7	359.3	518.0	703.6
107.5°	114.2	115.7	119.7	129.8	143.4	166.0	200.8	260.4	354.9	482.6	634.1
110°	128.8	130.3	134.2	143.7	157.9	179.3	214.0	269.2	356.1	470.6	599.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.6	144.2	148.8	157.6	171.8	193.2	226.6	278.7	359.9	464.9	579.8
115°	162.7	165.0	170.6	178.4	193.5	214.8	246.4	293.8	367.2	461.9	561.4
117.5°	183.5	185.7	190.7	199.3	213.4	235.5	265.5	309.0	375.0	461.1	553.2
120°	197.4	198.9	204.5	213.2	226.6	248.7	278.7	319.8	380.6	461.1	548.8
122.5°	210.1	211.7	217.1	225.2	239.8	261.4	291.3	329.9	386.3	460.5	543.7
125°	226.6	229.7	234.5	243.2	258.2	280.3	308.7	345.1	394.9	459.6	535.3
127.5°	241.4	243.9	249.5	259.4	275.1	297.4	324.9	358.2	401.6	457.9	524.1
130°	249.5	252.7	259.0	270.8	285.9	308.7	335.6	366.4	406.7	457.2	517.3
132.5°	257.7	260.2	268.5	279.7	296.0	317.6	344.5	374.6	411.1	456.6	510.9
135°	269.2	272.5	280.3	293.8	310.3	330.8	356.9	385.4	417.7	455.7	501.4
137.5°	280.8	283.8	292.5	305.3	322.4	342.0	366.4	392.9	421.6	455.4	493.2
140°	289.0	291.3	300.0	313.5	330.0	349.0	372.7	398.0	424.9	454.8	488.8
142.5°	297.8	300.2	308.3	321.0	337.0	355.4	378.4	401.7	427.4	454.8	485.0
145°	310.3	312.7	320.6	331.6	346.7	364.1	384.6	405.9	428.8	453.2	478.5
147.5°	324.4	325.2	332.1	343.5	356.0	371.6	390.9	409.5	429.6	450.4	472.7
150°	333.3	334.1	340.3	349.8	361.6	376.7	394.0	411.4	429.6	448.5	468.3
152.5°	341.4	341.6	347.9	356.8	367.4	381.1	396.6	412.6	428.3	445.4	463.2
155°	352.9	353.8	358.5	366.4	375.1	386.9	400.3	413.7	426.4	440.6	455.7
157.5°	364.2	364.2	368.6	374.8	382.3	391.6	403.0	413.7	424.3	435.8	447.9
160°	371.1	371.1	374.3	379.8	386.2	394.9	404.2	413.7	422.4	431.9	442.2
162.5°	377.5	376.8	379.3	384.3	389.9	396.7	405.6	413.7	420.6	428.2	437.2
165°	384.6	384.6	386.2	390.1	394.0	398.8	405.9	412.2	417.0	422.4	428.8
167.5°	391.6	390.9	391.6	394.7	396.9	400.5	405.8	410.3	413.1	416.8	421.2
170°	394.9	394.0	394.9	397.2	398.8	401.1	405.1	409.0	410.6	412.9	416.2
172.5°	398.0	397.2	397.4	399.1	400.0	401.7	404.5	407.8	408.1	409.2	411.7
175°	401.1	400.3	400.3	401.1	401.9	401.9	403.5	405.9	405.1	405.1	406.7
177.5°	402.5	401.9	401.3	401.9	401.9	401.9	402.5	403.8	402.5	402.5	403.1
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1335.7	1337.7	1339.6	1340.5	1340.3	1340.1	1339.9	1339.7
5°	1328.6	1331.2	1333.8	1334.9	1334.4	1334.0	1333.5	1333.0
7.5°	1313.8	1316.0	1318.0	1318.9	1318.7	1318.4	1318.1	1317.8
10°	1301.4	1303.3	1305.3	1306.0	1305.5	1304.9	1304.5	1304.0
12.5°	1286.4	1288.4	1290.5	1291.2	1290.6	1289.9	1289.2	1288.6
15°	1257.5	1258.9	1260.3	1260.7	1260.0	1259.3	1258.6	1257.9
17.5°	1224.7	1225.6	1226.5	1226.7	1226.2	1225.7	1225.3	1224.8
20°	1200.2	1200.9	1201.6	1201.7	1201.2	1200.8	1200.3	1199.8
22.5°	1174.7	1176.0	1177.3	1177.5	1176.6	1175.8	1174.9	1174.1
25°	1132.7	1132.9	1133.2	1132.8	1131.9	1130.8	1129.9	1128.9
27.5°	1085.5	1084.9	1084.3	1083.5	1082.3	1081.1	1079.8	1078.6
30°	1052.9	1052.0	1051.0	1050.0	1048.7	1047.5	1046.3	1045.2
32.5°	1019.9	1018.8	1017.6	1016.4	1015.2	1014.0	1012.8	1011.7
35°	967.8	966.0	964.3	962.9	961.7	960.6	959.4	958.2
37.5°	913.0	911.2	909.5	907.8	906.2	904.6	903.0	901.4
40°	874.9	872.6	870.2	868.4	867.2	866.1	864.8	863.6
42.5°	838.1	835.4	832.5	830.8	830.0	829.2	828.4	827.6
45°	781.0	778.4	775.8	774.2	773.4	772.6	771.9	771.2
47.5°	725.8	722.9	719.8	717.5	715.7	713.9	712.1	710.2
50°	687.2	683.9	680.5	678.1	676.7	675.3	673.9	672.5
52.5°	647.6	644.6	641.7	639.3	637.5	635.7	633.9	632.1
55°	589.4	586.5	583.6	581.5	580.1	578.7	577.1	575.7
57.5°	531.0	528.3	525.5	523.5	522.1	520.7	519.4	518.0
60°	490.9	488.8	486.6	484.9	483.7	482.5	481.3	480.2
62.5°	451.7	449.8	447.9	446.3	445.0	443.8	442.7	441.5
65°	394.9	392.4	390.0	388.3	387.1	385.9	384.7	383.4
67.5°	336.2	333.9	331.5	330.2	329.9	329.6	329.2	328.9
70°	299.1	297.2	295.3	294.0	293.3	292.6	291.9	291.1
72.5°	262.1	260.5	259.0	257.9	257.1	256.4	255.7	255.0
75°	208.6	207.6	206.7	206.1	205.9	205.6	205.4	205.2
77.5°	157.9	157.6	157.4	156.9	156.3	155.7	155.1	154.5
80°	125.8	125.3	124.8	124.5	124.2	124.0	123.8	123.5
82.5°	96.9	96.6	96.3	96.1	95.9	95.6	95.4	95.1
85°	55.8	55.8	55.8	55.7	55.5	55.2	55.0	54.7
87.5°	23.4	23.6	23.8	23.8	23.9	24.1	23.9	23.9
90°	14.2	15.0	15.8	15.8	16.6	17.4	16.6	16.6
92.5°	155.1	116.7	92.9	77.1	67.8	63.5	60.8	60.8
95°	585.1	462.7	356.9	280.3	241.7	217.1	203.0	192.7
97.5°	864.4	819.0	741.7	659.3	602.7	555.1	531.4	515.0
100°	952.3	968.1	929.4	871.0	802.2	754.1	730.4	724.1
102.5°	947.9	1026.2	1037.4	1013.1	971.0	936.0	911.1	906.1
105°	884.4	1021.0	1099.1	1131.6	1133.2	1126.8	1115.8	1111.1
107.5°	794.3	939.7	1049.8	1120.1	1159.2	1177.2	1185.1	1187.1
110°	739.9	876.5	991.0	1077.8	1133.9	1167.1	1181.3	1188.4





TEST NUMBER: P332606-840

CATALOG NUMBER: S124DIP-S795D810U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	700.1	820.9	929.1	1015.9	1079.5	1119.7	1139.6	1151.1
115°	660.1	757.3	849.6	925.4	987.8	1035.2	1060.5	1066.8
117.5°	640.6	720.9	793.6	857.9	911.1	950.9	976.4	981.4
120°	631.7	705.2	768.3	824.4	869.4	904.1	924.6	933.3
122.5°	624.1	695.0	752.6	801.6	839.7	869.4	886.8	895.4
125°	611.2	679.1	733.6	777.0	808.6	831.5	846.5	851.2
127.5°	595.4	660.2	714.6	755.9	787.6	808.0	820.6	825.4
130°	582.8	645.1	698.8	740.6	773.1	792.8	805.5	810.2
132.5°	569.5	628.0	680.5	722.4	754.1	776.4	788.4	793.1
135°	551.2	602.5	650.7	690.1	721.8	743.9	756.5	761.2
137.5°	534.6	578.0	618.6	654.3	683.8	705.6	716.0	721.8
140°	525.1	562.2	597.7	631.0	658.5	675.9	687.0	693.3
142.5°	516.2	549.0	579.5	608.1	632.7	648.7	658.5	663.0
145°	503.8	530.7	554.3	576.4	596.2	609.6	617.5	621.5
147.5°	493.5	514.8	533.8	551.2	565.7	577.2	583.2	584.6
150°	487.2	505.3	521.2	535.3	548.1	558.3	563.0	563.8
152.5°	480.3	495.8	510.4	522.1	532.8	541.2	544.0	544.8
155°	469.8	482.5	494.3	503.8	511.7	518.0	520.4	520.4
157.5°	458.6	469.2	479.2	486.8	492.7	497.5	498.9	498.9
160°	451.7	460.4	469.1	475.3	480.1	484.8	485.6	485.6
162.5°	444.7	452.1	459.0	464.6	468.1	472.8	473.6	473.0
165°	435.0	439.8	445.4	449.3	452.4	455.7	454.8	454.0
167.5°	425.8	429.4	433.8	436.2	437.8	439.8	439.7	439.0
170°	420.1	422.4	425.7	428.0	429.6	430.3	429.6	429.6
172.5°	415.1	416.8	418.7	420.4	421.3	422.1	421.3	420.1
175°	408.3	409.0	410.6	410.6	410.6	412.2	410.6	409.0
177.5°	403.8	404.5	404.5	405.1	404.5	405.1	403.8	402.5
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9

(END OF REPORT)