

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: P332596-840

Luminaire Tested: **SA4XXDIP-C795D590U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332596-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

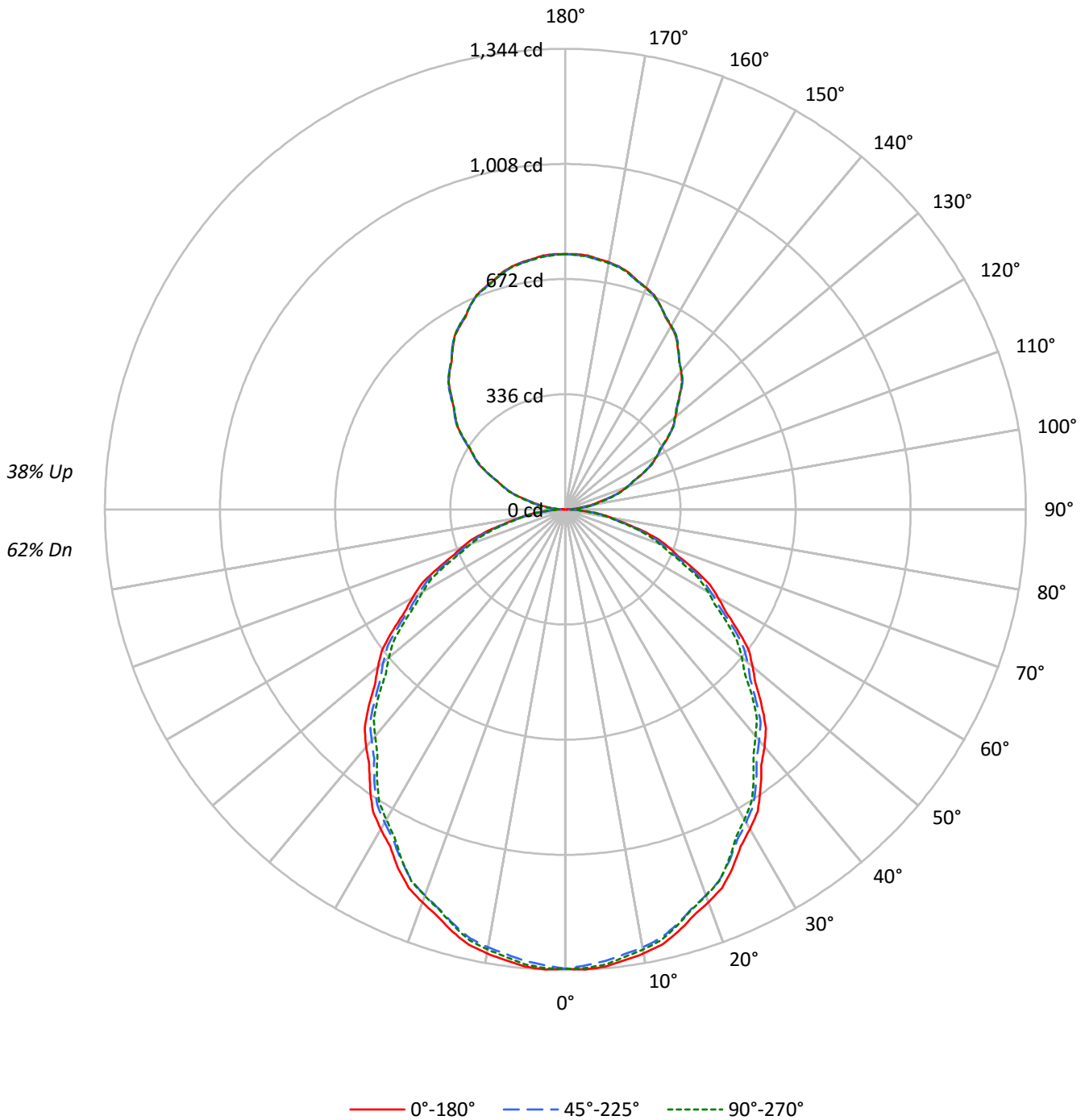
Lumens per Lamp: N/A
Luminaire Lumens: 5508.5 lumens
Efficiency: N/A
Efficacy: 136.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 40.3
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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	62																			
1	101	96	92	89	94	90	87	84	79	77	74	69	67	65	60	58	57	53																			
2	92	84	78	72	86	79	73	69	69	65	61	61	57	55	53	50	48	44																			
3	84	74	66	60	78	69	63	57	61	56	52	54	50	46	47	43	41	37																			
4	76	65	57	51	71	62	54	49	54	49	44	48	43	40	42	38	35	32																			
5	70	58	50	44	66	55	48	42	49	43	38	43	38	34	38	34	31	28																			
6	65	52	44	38	60	49	42	37	44	38	33	39	34	30	34	30	27	24																			
7	60	47	39	34	56	45	37	32	40	34	29	35	30	27	31	27	24	22																			
8	56	43	35	30	52	41	34	29	36	30	26	32	27	24	29	25	22	19																			
9	52	39	32	27	49	37	30	26	34	28	24	30	25	22	26	22	20	17																			
10	49	36	29	24	46	34	28	23	31	25	21	28	23	20	25	21	18	16																			

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



TEST NUMBER: P332596-840

CATALOG NUMBER: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	2.3
10°-20°	355.7	6.5
20°-30°	523.5	9.5
30°-40°	608.6	11.0
40°-50°	608.7	11.0
50°-60°	532.4	9.7
60°-70°	395.4	7.2
70°-80°	224.6	4.1
80°-90°	67.0	1.2
90°-100°	49.1	0.9
100°-110°	145.5	2.6
110°-120°	247.0	4.5
120°-130°	325.7	5.9
130°-140°	365.7	6.6
140°-150°	359.4	6.5
150°-160°	302.3	5.5
160°-170°	201.1	3.7
170°-180°	70.4	1.3
0°-30°	1005.5	18.3
0°-40°	1614.1	29.3
0°-60°	2755.2	50.0
0°-90°	3442.3	62.5
90°-120°	441.6	8.0
90°-150°	1492.4	27.1
90°-180°	2066.0	37.5
0°-180°	5508.5	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°	2	8	13	16	17	5
95°	34	40	44	45	46	38
105°	134	135	137	139	141	142
115°	251	251	250	249	249	248
125°	366	366	365	364	363	326
135°	472	475	475	474	472	365
145°	573	575	576	575	574	358
155°	657	657	656	658	656	302
165°	715	713	712	715	713	201
175°	744	741	740	744	740	71
180°	745	745	745	745	745	



TEST NUMBER: P332596-840

CATALOG NUMBER: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1

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°	22.7	22.8	22.8	22.9	23.0	23.1	23.1	23.1	23.1	23.1	23.3
90°	1.7	3.1	4.5	6.0	7.4	8.6	9.6	10.6	11.6	12.6	13.4
92.5°	12.3	13.9	15.6	17.2	18.8	19.9	20.7	21.4	22.1	22.8	23.2
95°	34.5	35.7	36.9	38.0	39.2	40.2	41.1	42.0	42.9	43.7	44.1
97.5°	60.4	61.3	62.2	63.1	64.0	65.0	66.0	67.2	68.2	69.3	69.7
100°	80.6	81.2	81.7	82.2	82.7	83.5	84.6	85.8	86.9	88.2	88.4
102.5°	101.8	102.0	102.2	102.4	102.6	103.3	104.3	105.3	106.4	107.4	107.9
105°	134.2	134.3	134.4	134.6	134.7	135.0	135.5	136.0	136.5	137.0	137.4
107.5°	168.1	168.3	168.4	168.6	168.8	169.0	169.0	169.1	169.2	169.3	169.6
110°	191.3	191.5	191.8	192.0	192.3	192.3	192.2	192.1	192.0	191.8	191.6



TEST NUMBER: P332596-840

CATALOG NUMBER: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	215.2	215.2	215.3	215.3	215.4	215.3	215.1	214.8	214.6	214.4	214.3
115°	251.2	251.2	251.2	251.2	251.2	251.0	250.7	250.4	250.2	249.9	249.8
117.5°	285.0	285.1	285.2	285.3	285.4	285.4	285.2	285.0	284.8	284.7	284.2
120°	307.6	308.1	308.6	309.1	309.6	309.7	309.3	308.9	308.5	308.1	307.5
122.5°	331.0	331.2	331.4	331.6	331.8	331.9	331.7	331.5	331.3	331.2	330.7
125°	365.8	365.8	365.8	365.8	365.8	365.7	365.6	365.5	365.3	365.2	364.9
127.5°	397.2	397.6	398.0	398.4	398.7	398.8	398.6	398.4	398.2	398.0	397.8
130°	419.3	419.7	420.1	420.5	420.8	421.0	421.0	421.0	421.0	421.0	420.8
132.5°	441.9	442.2	442.4	442.7	443.0	443.1	443.0	442.9	442.8	442.7	442.4
135°	471.7	472.5	473.2	474.0	474.8	475.1	475.1	475.1	475.1	475.1	474.9
137.5°	504.2	504.5	504.9	505.2	505.6	505.9	506.1	506.3	506.5	506.8	506.4
140°	525.8	526.1	526.3	526.6	526.8	527.0	527.0	527.0	527.0	527.0	526.8
142.5°	545.6	545.9	546.2	546.4	546.7	546.7	546.6	546.5	546.4	546.3	546.3
145°	573.1	573.6	574.1	574.6	575.1	575.4	575.6	575.7	575.8	575.9	575.8
147.5°	600.3	600.9	601.5	602.1	602.8	603.0	602.9	602.8	602.7	602.6	602.5
150°	616.8	617.4	617.9	618.4	618.9	619.1	619.1	619.1	619.1	619.1	619.1
152.5°	632.6	632.9	633.2	633.5	633.8	634.0	634.1	634.2	634.3	634.4	634.7
155°	656.6	656.6	656.6	656.6	656.6	656.5	656.4	656.3	656.2	656.0	656.5
157.5°	676.9	676.6	676.4	676.2	676.0	675.8	675.8	675.8	675.8	675.7	676.1
160°	688.8	688.7	688.6	688.5	688.3	688.2	688.1	688.0	687.8	687.7	688.1
162.5°	699.9	699.6	699.2	698.9	698.6	698.3	698.2	698.1	698.0	697.8	698.5
165°	714.8	714.4	714.0	713.7	713.3	713.0	712.7	712.5	712.2	712.0	712.7
167.5°	726.2	725.7	725.1	724.6	724.1	723.8	723.8	723.9	723.9	723.9	724.7
170°	732.7	732.1	731.3	730.7	730.0	729.8	729.9	730.0	730.2	730.3	731.1
172.5°	737.2	736.7	736.2	735.7	735.1	734.9	734.9	734.9	734.9	735.0	735.8
175°	743.6	743.0	742.4	741.6	741.0	740.6	740.5	740.4	740.2	740.1	741.0
177.5°	745.7	745.2	744.7	744.2	743.6	743.4	743.4	743.4	743.4	743.4	744.1
180°	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8



TEST NUMBER: P332596-840

CATALOG NUMBER: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1

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	23.7	23.8	23.9	23.9	24.0	24.0
90°	14.2	14.9	15.8	16.3	16.6	16.8	17.1	17.3
92.5°	23.7	24.2	24.6	24.9	25.1	25.2	25.4	25.5
95°	44.5	44.9	45.3	45.5	45.5	45.5	45.5	45.5
97.5°	70.2	70.6	71.1	71.3	71.3	71.3	71.3	71.3
100°	88.7	88.9	89.2	89.3	89.3	89.3	89.3	89.3
102.5°	108.2	108.6	108.9	109.2	109.3	109.4	109.5	109.6
105°	137.8	138.3	138.7	139.0	139.4	139.8	140.2	140.6
107.5°	170.0	170.3	170.7	170.9	170.8	170.8	170.8	170.8
110°	191.3	191.1	190.8	190.9	191.3	191.6	192.0	192.4



TEST NUMBER: P332596-840

CATALOG NUMBER: SA4XXDIP-C795D590U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	214.3	214.2	214.2	214.2	214.3	214.3	214.4	214.5
115°	249.7	249.6	249.4	249.3	249.2	249.0	248.9	248.8
117.5°	283.8	283.4	282.9	282.6	282.3	282.1	281.8	281.6
120°	306.9	306.2	305.6	305.4	305.7	305.9	306.2	306.4
122.5°	330.3	329.9	329.4	329.0	328.5	328.1	327.6	327.2
125°	364.7	364.4	364.2	363.9	363.7	363.3	363.1	362.8
127.5°	397.5	397.3	397.0	396.8	396.6	396.4	396.2	396.0
130°	420.5	420.3	420.0	419.6	419.1	418.6	418.1	417.6
132.5°	442.2	441.9	441.7	441.4	441.2	441.0	440.8	440.6
135°	474.6	474.4	474.1	473.8	473.4	473.0	472.7	472.3
137.5°	506.0	505.7	505.4	505.2	505.3	505.4	505.5	505.6
140°	526.7	526.6	526.5	526.3	526.2	526.1	526.0	525.8
142.5°	546.3	546.3	546.2	546.2	546.2	546.2	546.1	546.1
145°	575.7	575.6	575.4	575.2	574.8	574.4	574.0	573.7
147.5°	602.4	602.3	602.2	602.1	602.0	601.8	601.7	601.6
150°	619.1	619.1	619.1	619.1	618.9	618.8	618.7	618.6
152.5°	635.0	635.3	635.6	635.6	635.3	634.9	634.6	634.3
155°	657.0	657.5	658.1	658.1	657.5	657.0	656.5	656.0
157.5°	676.5	676.9	677.3	677.2	676.8	676.4	675.9	675.5
160°	688.5	688.8	689.2	689.1	688.5	687.8	687.2	686.6
162.5°	699.2	699.9	700.6	700.6	700.0	699.3	698.7	698.1
165°	713.5	714.2	715.0	715.1	714.6	714.1	713.6	713.1
167.5°	725.4	726.2	727.0	726.9	726.2	725.4	724.6	723.8
170°	731.8	732.7	733.4	733.4	732.5	731.5	730.6	729.7
172.5°	736.7	737.6	738.4	738.4	737.5	736.6	735.7	734.9
175°	741.9	742.9	743.7	743.7	742.9	741.9	741.0	740.1
177.5°	744.8	745.5	746.2	746.2	745.4	744.6	743.7	742.9
180°	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8

(END OF REPORT)