

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: P332693-840

Luminaire Tested: **SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332693-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

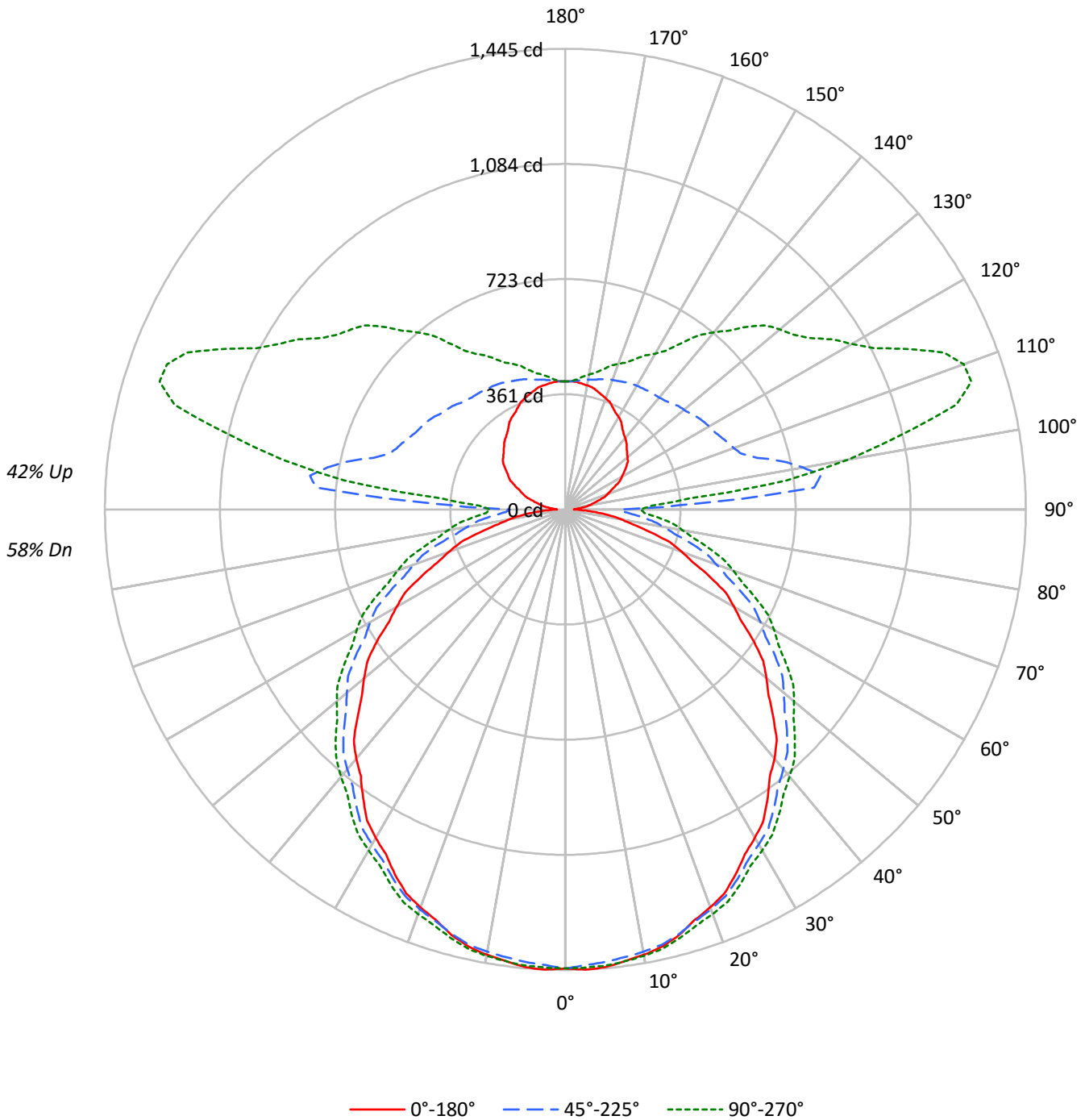
Lumens per Lamp: N/A
Luminaire Lumens: 7834.2 lumens
Efficiency: N/A
Efficacy: 129.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 60.7
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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58				
1	98	94	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	46				
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	44	42	38				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	35	32				
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27				
5	68	55	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23				
6	62	50	41	35	58	46	39	33	41	34	30	35	30	26	30	26	23	20				
7	58	45	36	31	53	42	34	29	37	31	26	32	27	23	27	23	20	18				
8	53	41	33	27	50	38	31	26	33	27	23	29	24	21	25	21	18	16				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14				
10	46	34	26	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13				

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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CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.7
10°-20°	390.7	5.0
20°-30°	590.8	7.5
30°-40°	714.8	9.1
40°-50°	755.7	9.6
50°-60°	711.2	9.1
60°-70°	590.1	7.5
70°-80°	414.5	5.3
80°-90°	236.5	3.0
90°-100°	429.4	5.5
100°-110°	707.2	9.0
110°-120°	610.3	7.8
120°-130°	494.2	6.3
130°-140°	396.4	5.1
140°-150°	293.4	3.7
150°-160°	203.8	2.6
160°-170°	119.9	1.5
170°-180°	39.0	0.5
0°-30°	1117.8	14.3
0°-40°	1832.6	23.4
0°-60°	3299.5	42.1
0°-90°	4540.5	58.0
90°-120°	1746.9	22.3
90°-150°	2930.9	37.4
90°-180°	3294.0	42.0
0°-180°	7834.2	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°	27	97	174	220	236	18
95°	47	157	784	501	391	46
105°	107	182	624	1261	1271	115
115°	172	230	538	997	1189	172
125°	233	276	505	830	937	208
135°	272	324	470	710	811	211
145°	312	355	453	575	638	196
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	



TEST NUMBER: P332693-840

CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4

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°	47.9	62.8	78.0	92.7	107.4	122.6	139.3	155.0	171.0	187.0	197.2
90°	26.6	42.5	59.2	74.3	89.5	104.3	124.5	139.9	156.8	173.9	183.5
92.5°	33.5	50.5	70.9	93.4	117.9	148.3	203.9	280.6	355.7	402.3	370.6
95°	47.1	61.2	80.9	103.0	133.8	180.3	263.6	407.8	611.3	783.9	811.7
97.5°	65.7	75.9	92.9	112.6	139.1	179.2	246.6	368.1	570.3	808.1	971.0
100°	77.8	87.1	101.9	120.7	145.0	182.0	242.5	345.7	520.8	757.4	969.3
102.5°	90.4	99.8	112.9	129.9	152.5	187.3	243.3	335.4	486.1	697.3	915.1
105°	106.9	116.4	127.5	144.2	165.6	198.6	249.8	328.6	452.4	624.4	819.0
107.5°	128.4	135.8	145.6	161.7	181.1	212.9	260.1	332.4	439.4	579.7	739.9
110°	141.6	148.2	157.1	171.7	190.9	221.0	268.3	336.1	435.5	562.5	699.5



TEST NUMBER: P332693-840

CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	154.2	160.3	169.3	182.6	201.2	230.8	276.2	340.2	433.4	550.4	673.2
115°	172.4	177.9	186.7	197.8	216.0	244.7	287.7	346.6	431.5	537.8	645.1
117.5°	192.9	197.0	203.8	214.5	230.5	258.8	299.5	353.9	430.4	527.3	626.8
120°	205.5	208.1	214.7	224.5	239.0	266.8	307.2	358.7	429.9	520.8	615.6
122.5°	218.1	219.9	225.6	233.9	248.8	275.3	315.2	363.5	429.7	513.7	604.1
125°	233.1	235.9	240.2	248.6	263.3	289.6	327.0	372.3	431.0	504.7	587.3
127.5°	247.4	249.6	254.9	264.5	279.8	305.3	339.7	379.9	430.2	493.3	566.1
130°	254.4	257.2	263.2	274.6	289.2	314.9	347.4	384.0	430.0	486.3	552.7
132.5°	262.6	264.8	272.6	283.5	299.3	323.2	354.6	389.3	430.4	480.4	540.9
135°	272.5	275.7	283.6	297.0	313.6	335.4	363.9	394.9	429.7	470.1	521.7
137.5°	284.0	286.7	295.0	307.4	324.3	344.3	369.8	397.6	427.6	462.5	505.5
140°	292.3	294.3	302.6	315.7	331.8	350.8	374.9	400.5	427.7	458.1	496.7
142.5°	299.8	302.1	310.0	322.8	338.7	356.9	379.7	402.8	428.2	455.4	489.7
145°	311.9	314.0	321.4	332.1	346.8	364.1	384.6	405.9	428.8	453.2	480.7
147.5°	326.0	326.4	333.1	344.1	356.2	371.6	390.9	409.5	429.6	450.4	472.9
150°	334.9	335.3	341.2	350.3	361.8	376.7	394.0	411.4	429.6	448.5	468.3
152.5°	341.7	341.8	348.1	356.9	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



TEST NUMBER: P332693-840

CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4

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°	207.8	218.3	228.8	235.7	238.9	242.3	245.3	248.4
90°	194.6	205.8	217.0	223.6	227.3	231.0	233.0	235.9
92.5°	327.2	298.9	285.2	275.9	269.4	268.0	268.2	271.0
95°	744.8	632.1	535.9	465.7	430.3	409.0	398.1	391.0
97.5°	1013.6	977.4	909.6	833.4	779.8	735.4	714.8	701.5
100°	1094.2	1119.6	1090.7	1038.3	972.1	926.5	905.2	901.5
102.5°	1082.8	1170.4	1191.0	1172.9	1133.5	1101.4	1079.2	1076.9
105°	1008.8	1154.3	1241.4	1279.7	1284.1	1280.7	1272.5	1270.6
107.5°	908.9	1063.2	1182.0	1258.2	1299.8	1320.4	1330.9	1335.4
110°	848.3	993.1	1115.9	1208.3	1267.2	1303.2	1320.3	1330.3



TEST NUMBER: P332693-840

CATALOG NUMBER: SA4XXDIP-C1195D810U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	801.4	930.3	1046.4	1138.6	1205.2	1248.1	1270.9	1285.3
115°	751.7	856.7	956.9	1037.9	1102.9	1152.8	1180.5	1189.3
117.5°	721.5	809.4	889.5	959.0	1015.0	1057.7	1086.1	1093.9
120°	705.7	786.3	856.7	917.8	965.6	1003.2	1026.6	1038.1
122.5°	691.7	769.7	834.5	888.4	929.1	961.3	981.3	992.5
125°	669.9	744.7	806.0	853.8	887.6	912.6	929.8	936.6
127.5°	643.8	715.1	775.9	821.5	855.8	878.6	893.6	900.8
130°	624.7	693.5	753.7	799.8	834.4	856.3	871.0	877.9
132.5°	605.7	670.4	729.0	775.1	808.9	833.3	847.5	854.3
135°	577.1	634.2	688.1	731.5	765.3	789.5	804.4	811.2
137.5°	552.1	600.8	646.6	685.8	717.1	740.7	753.0	760.4
140°	537.7	579.5	619.7	656.0	685.4	704.6	717.4	725.6
142.5°	525.1	561.9	596.4	627.9	654.0	671.6	682.9	688.8
145°	508.1	537.0	562.9	586.8	608.0	622.9	632.2	637.5
147.5°	494.1	515.7	534.9	553.0	568.8	581.4	588.5	591.1
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)