

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: P332675-840

Luminaire Tested: **SA4XXDIP-C1195D365U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332675-840
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-C1195D365U840-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

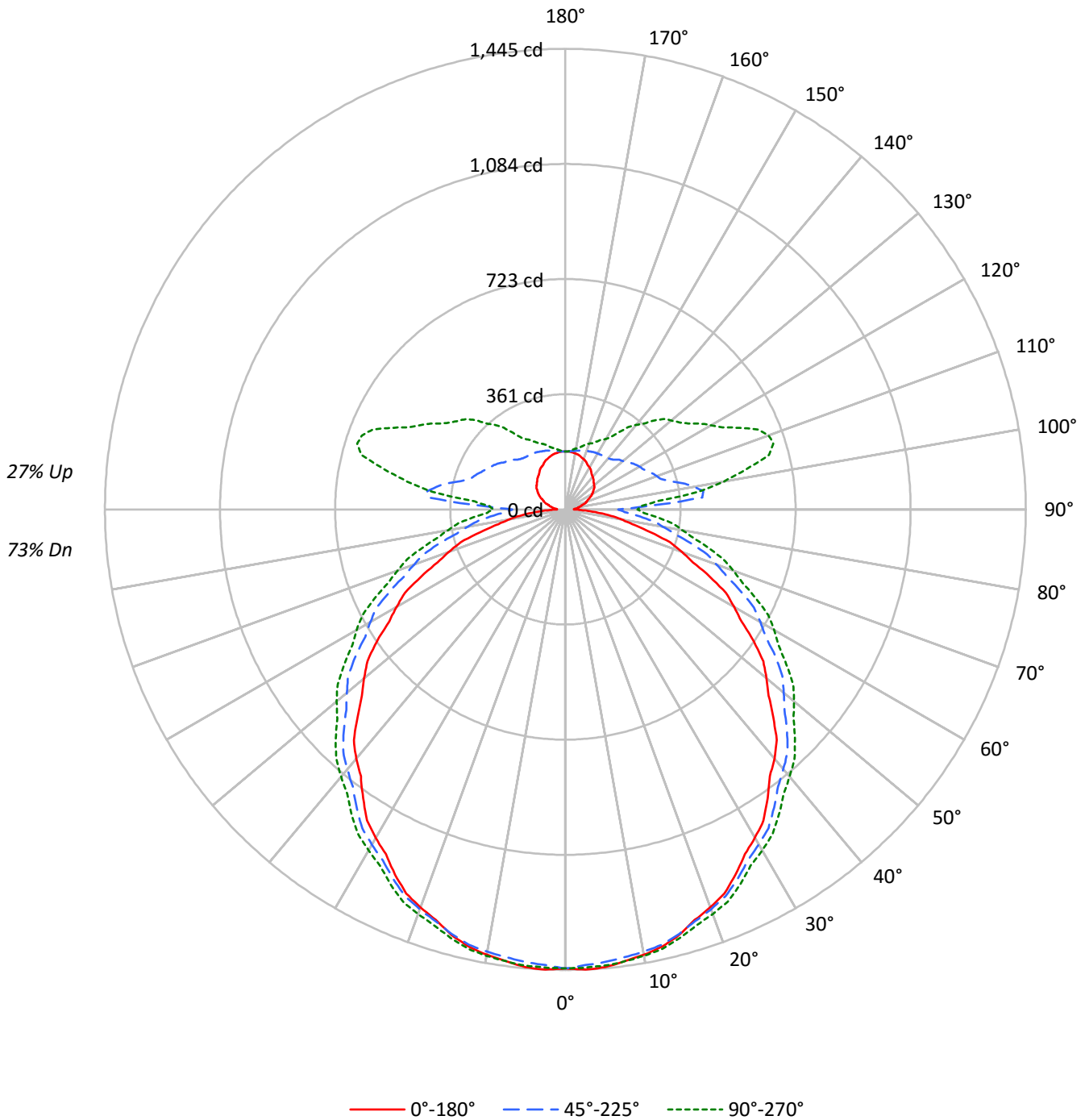
Lumens per Lamp: N/A
Luminaire Lumens: 6231.1 lumens
Efficiency: N/A
Efficacy: 125.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73				
1	101	96	92	88	96	91	87	84	82	79	76	74	71	69	66	64	62	58				
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	48				
3	83	73	65	58	79	69	62	56	62	56	51	56	51	47	50	46	43	40				
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	34				
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	29				
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	25				
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	22				
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	20				
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18				
10	48	35	28	22	46	34	27	22	31	25	20	28	23	19	26	21	18	16				

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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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	2.2
10°-20°	390.7	6.3
20°-30°	590.8	9.5
30°-40°	714.8	11.5
40°-50°	755.7	12.1
50°-60°	711.2	11.4
60°-70°	590.1	9.5
70°-80°	414.5	6.7
80°-90°	235.3	3.8
90°-100°	270.3	4.3
100°-110°	376.1	6.0
110°-120°	313.7	5.0
120°-130°	244.8	3.9
130°-140°	188.4	3.0
140°-150°	134.5	2.2
150°-160°	92.1	1.5
160°-170°	54.2	0.9
170°-180°	17.6	0.3
0°-30°	1117.8	17.9
0°-40°	1832.6	29.4
0°-60°	3299.5	53.0
0°-90°	4539.3	72.8
90°-120°	960.2	15.4
90°-150°	1527.8	24.5
90°-180°	1692.0	27.2
0°-180°	6231.1	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°	26	93	166	212	227	18
95°	33	112	431	326	285	30
105°	56	109	340	649	662	61
115°	83	118	285	511	605	83
125°	109	129	253	416	470	97
135°	125	149	220	342	394	97
145°	142	161	205	265	297	89
155°	160	172	199	226	235	74
165°	174	179	191	202	205	49
175°	181	182	183	186	185	17
180°	182	182	182	182	182	



TEST NUMBER: P332675-840

CATALOG NUMBER: SA4XXDIP-C1195D365U840-4F0-1E-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°	47.8	62.6	77.4	92.1	106.7	122.0	138.0	153.8	169.6	185.4	195.7
90°	26.2	41.2	56.7	71.3	86.0	100.9	118.5	133.8	150.0	166.0	176.1
92.5°	28.6	43.3	59.6	76.9	94.9	116.5	150.1	193.2	235.6	265.1	256.3
95°	32.7	45.6	61.0	77.5	97.9	126.1	171.9	245.1	345.1	431.2	449.1
97.5°	40.2	50.3	63.6	78.1	95.5	120.5	159.0	221.9	321.1	436.7	515.4
100°	44.8	54.2	66.0	79.6	95.7	118.8	153.8	208.1	294.9	409.5	510.6
102.5°	50.6	59.3	69.7	81.9	96.5	118.4	151.1	200.3	275.9	378.8	482.4
105°	56.2	64.5	73.4	84.9	98.5	119.1	149.5	192.4	255.6	340.5	433.4
107.5°	65.8	72.4	80.1	90.5	102.5	121.9	150.2	189.7	244.9	315.2	392.5
110°	71.1	76.9	83.6	92.9	104.3	122.8	151.0	188.5	240.3	304.7	371.0



TEST NUMBER: P332675-840

CATALOG NUMBER: SA4XXDIP-C1195D365U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	76.0	81.2	87.8	96.1	107.0	124.9	152.0	187.5	236.2	295.6	355.5
115°	83.2	87.5	93.2	100.0	110.0	127.0	152.8	185.6	230.2	284.6	337.4
117.5°	92.3	95.2	99.4	105.2	113.5	129.9	154.1	184.5	224.9	274.6	323.7
120°	97.3	99.1	102.7	107.7	114.8	130.5	154.5	183.4	221.3	268.1	314.9
122.5°	103.0	103.9	106.6	110.5	117.3	132.1	155.4	182.7	218.0	261.4	306.2
125°	108.9	110.0	111.7	115.3	121.7	136.0	157.8	183.2	214.7	252.9	294.0
127.5°	115.2	116.0	118.2	122.3	129.1	142.4	161.7	183.6	210.2	242.4	278.8
130°	117.6	118.7	121.2	126.2	132.6	145.6	163.5	183.2	207.1	235.7	269.2
132.5°	121.3	122.1	125.4	130.2	137.1	149.1	165.8	184.0	205.1	230.2	260.9
135°	124.9	126.3	130.0	136.0	143.5	154.0	168.3	183.7	200.9	220.5	246.9
137.5°	130.2	131.2	134.7	140.2	147.5	156.8	169.1	182.3	196.4	213.0	235.3
140°	133.8	134.6	138.1	143.8	151.0	159.6	170.6	182.4	194.9	208.8	228.8
142.5°	136.5	137.5	141.2	146.8	154.0	162.1	172.3	182.7	194.0	206.2	224.0
145°	141.9	142.6	145.8	150.5	156.8	164.5	173.8	183.5	193.8	204.9	218.4
147.5°	148.2	148.2	151.0	155.8	161.1	167.9	176.6	185.1	194.2	203.6	213.9
150°	152.2	152.2	154.7	158.6	163.6	170.3	178.1	185.9	194.2	202.7	211.7
152.5°	154.6	154.6	157.4	161.4	166.0	172.3	179.3	186.5	193.6	201.3	209.3
155°	159.6	159.9	162.1	165.6	169.6	174.9	181.0	187.0	192.8	199.1	205.9
157.5°	164.6	164.6	166.6	169.4	172.8	177.0	182.2	187.0	191.8	196.9	202.5
160°	167.7	167.7	169.2	171.7	174.5	178.4	182.8	187.0	191.0	195.2	199.9
162.5°	170.6	170.4	171.5	173.7	176.2	179.4	183.3	187.0	190.1	193.5	197.6
165°	173.8	173.8	174.5	176.3	178.1	180.3	183.5	186.3	188.4	191.0	193.8
167.5°	177.0	176.6	177.0	178.3	179.4	181.1	183.4	185.4	186.7	188.3	190.4
170°	178.4	178.1	178.4	179.6	180.3	181.3	183.1	184.9	185.6	186.6	188.1
172.5°	179.9	179.6	179.6	180.4	180.8	181.6	182.8	184.3	184.5	184.9	186.1
175°	181.3	181.0	181.0	181.3	181.7	181.7	182.4	183.5	183.1	183.1	183.8
177.5°	182.0	181.7	181.4	181.7	181.7	181.7	182.0	182.5	182.0	182.0	182.3
180°	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7



TEST NUMBER: P332675-840

CATALOG NUMBER: SA4XXDIP-C1195D365U840-4F0-1E-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°	206.2	216.7	227.1	233.9	237.1	240.3	243.5	246.6
90°	186.8	197.6	208.3	215.0	218.2	221.5	223.9	226.8
92.5°	242.2	235.0	234.3	233.7	232.3	233.3	234.9	237.7
95°	424.1	378.5	340.3	312.1	297.9	290.0	286.8	285.4
97.5°	539.8	528.7	503.1	472.1	449.6	431.1	423.5	419.2
100°	572.4	589.2	581.4	561.0	532.5	513.2	505.0	504.6
102.5°	563.3	608.1	622.6	617.6	601.4	588.4	580.0	580.5
105°	524.1	594.8	639.0	659.6	663.2	663.2	661.1	661.9
107.5°	473.7	548.3	606.8	644.4	664.6	675.3	681.5	684.9
110°	442.8	512.8	572.8	617.6	645.8	663.7	673.0	679.0



TEST NUMBER: P332675-840

CATALOG NUMBER: SA4XXDIP-C1195D365U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.8	480.4	537.2	581.9	613.5	634.5	646.4	654.5
115°	389.9	441.7	491.4	530.8	561.5	585.4	599.4	604.7
117.5°	370.5	414.3	454.6	488.9	515.7	536.6	551.1	556.1
120°	359.5	399.9	435.7	466.0	489.2	507.8	519.9	526.6
122.5°	349.6	388.9	422.0	449.1	468.9	484.8	495.3	501.8
125°	335.0	372.5	403.9	428.1	444.5	457.0	466.0	470.2
127.5°	317.5	353.3	384.3	407.4	424.1	435.8	443.9	448.5
130°	305.3	340.0	370.7	393.9	410.7	421.7	429.6	433.9
132.5°	293.6	326.3	356.1	379.2	395.7	407.9	415.5	419.8
135°	275.1	304.1	331.5	353.4	369.7	381.9	389.8	394.0
137.5°	259.2	284.1	307.6	327.3	342.4	354.1	360.5	365.0
140°	249.8	271.4	292.1	310.2	324.6	334.2	340.9	345.6
142.5°	242.2	261.1	278.9	294.7	307.2	316.0	321.9	325.5
145°	232.0	246.3	259.1	270.9	281.2	288.8	293.8	297.0
147.5°	223.7	233.6	242.5	251.0	258.7	265.1	268.9	270.7
150°	220.3	228.4	235.6	242.0	247.7	252.4	254.5	254.8
152.5°	217.1	224.2	230.8	236.0	240.9	244.6	245.9	246.3
155°	212.4	218.0	223.4	227.7	231.3	234.1	235.2	235.2
157.5°	207.3	212.1	216.6	220.0	222.7	224.9	225.5	225.5
160°	204.2	208.0	212.0	214.9	217.0	219.1	219.5	219.5
162.5°	201.1	204.4	207.4	210.1	211.6	213.7	214.1	213.8
165°	196.6	198.8	201.3	203.1	204.5	205.9	205.6	205.2
167.5°	192.5	194.1	196.1	197.1	197.8	198.8	198.7	198.4
170°	189.9	191.0	192.4	193.5	194.2	194.5	194.2	194.2
172.5°	187.6	188.3	189.2	190.1	190.5	190.8	190.5	189.9
175°	184.5	184.9	185.6	185.6	185.6	186.3	185.6	184.9
177.5°	182.5	182.8	182.8	183.1	182.8	183.1	182.5	182.0
180°	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7

(END OF REPORT)