

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: P332674-830

Luminaire Tested: **SA4XXDIP-C1195D365U830-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332674-830
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-C1195D365U830-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

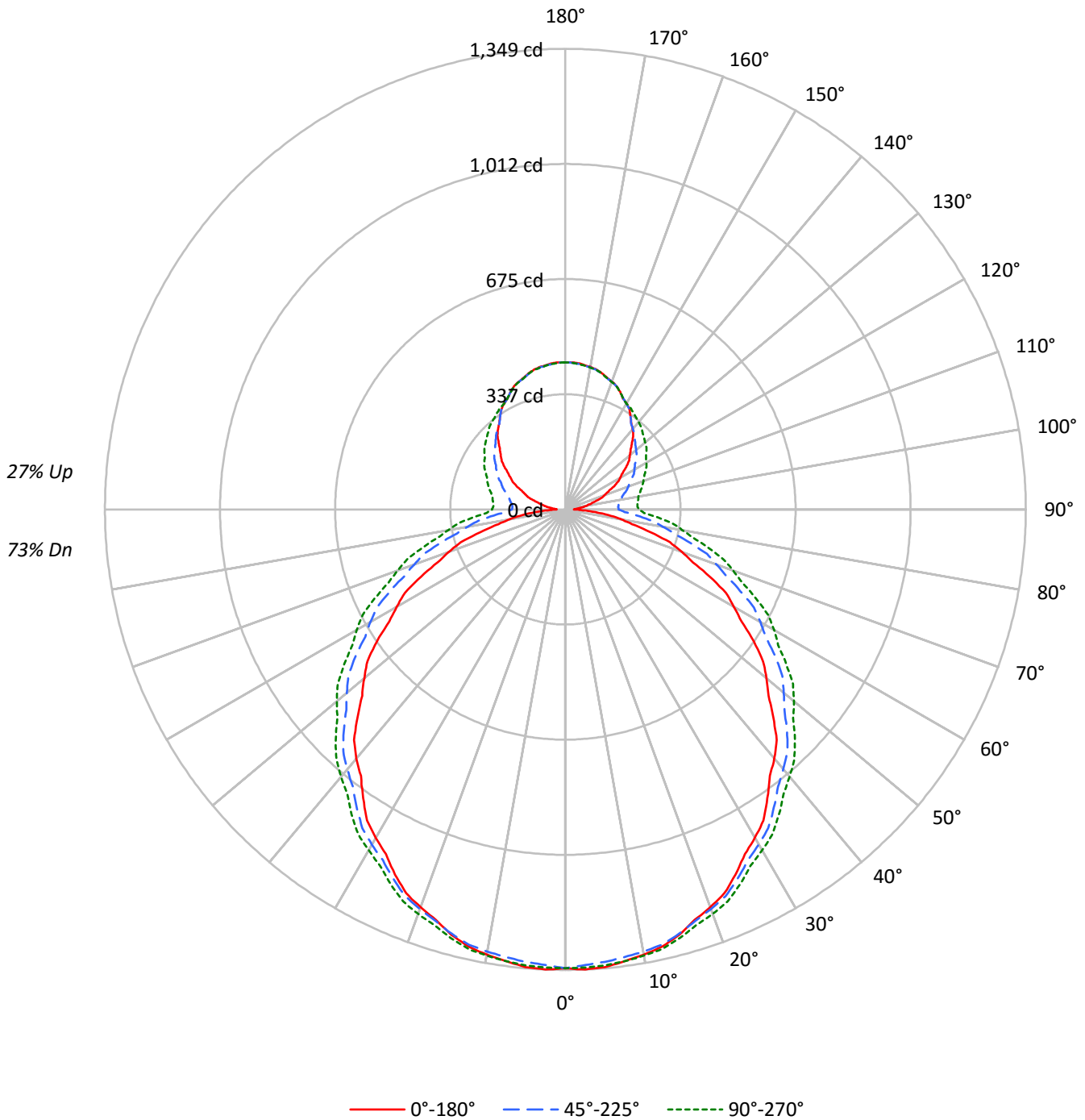
Lumens per Lamp: N/A
Luminaire Lumens: 5777.7 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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	0
RCR																		
0	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	73
1	102	96	92	88	96	92	87	84	82	79	76	74	72	69	66	64	63	59
2	92	83	76	70	87	79	73	68	71	66	62	64	60	57	57	54	52	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	45	40	37	34
5	70	57	48	42	66	54	46	40	49	43	37	45	39	35	40	36	32	29
6	64	51	42	36	61	49	41	35	44	38	32	40	34	30	36	32	28	25
7	60	46	38	32	56	44	36	31	40	33	29	37	31	27	33	28	25	22
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	26	22	20
9	52	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	21	28	23	19	26	21	18	16

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	2.2
10°-20°	364.7	6.3
20°-30°	551.4	9.5
30°-40°	667.1	11.5
40°-50°	705.3	12.2
50°-60°	663.8	11.5
60°-70°	550.7	9.5
70°-80°	386.8	6.7
80°-90°	220.0	3.8
90°-100°	158.3	2.7
100°-110°	180.3	3.1
110°-120°	207.3	3.6
120°-130°	224.7	3.9
130°-140°	227.2	3.9
140°-150°	211.0	3.7
150°-160°	174.8	3.0
160°-170°	116.3	2.0
170°-180°	40.7	0.7
0°-30°	1043.3	18.1
0°-40°	1710.5	29.6
0°-60°	3079.5	53.3
0°-90°	4237.1	73.3
90°-120°	545.8	9.4
90°-150°	1208.8	20.9
90°-180°	1541.0	26.7
0°-180°	5777.7	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°	25	89	156	200	215	17
95°	40	93	156	196	211	38
105°	91	123	179	216	230	98
115°	154	170	215	247	258	153
125°	218	218	253	280	290	194
135°	276	278	288	311	320	214
145°	333	333	333	342	347	208
155°	380	380	379	380	379	175
165°	413	412	412	413	412	116
175°	430	428	428	430	428	41
180°	431	431	431	431	431	



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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°	44.8	58.5	72.4	86.1	100.0	114.2	129.0	143.8	158.5	173.3	183.1
90°	25.1	39.3	53.4	67.7	81.8	96.4	111.4	126.4	141.4	156.4	166.5
92.5°	30.0	43.0	56.0	68.9	81.9	95.8	110.6	125.4	140.2	155.0	164.7
95°	39.6	51.3	63.0	74.6	86.3	99.3	113.6	127.8	142.0	156.3	165.5
97.5°	52.7	62.7	72.8	82.8	92.7	104.9	119.0	133.3	147.4	161.6	170.7
100°	63.2	72.2	81.2	90.2	99.2	110.5	124.2	137.9	151.7	165.3	174.6
102.5°	75.4	83.2	91.0	98.7	106.4	117.0	130.4	143.7	157.1	170.5	179.5
105°	91.1	97.9	104.7	111.4	118.2	127.9	140.6	153.3	165.9	178.6	187.2
107.5°	110.5	116.0	121.7	127.2	132.8	141.5	153.2	164.9	176.7	188.4	196.9
110°	122.6	127.4	132.2	137.1	141.9	150.1	161.8	173.4	185.0	196.7	204.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.3	139.4	143.6	147.8	151.9	159.6	170.6	181.6	192.7	203.8	211.1
115°	154.2	157.2	160.2	163.2	166.3	173.1	183.6	194.2	204.7	215.3	222.5
117.5°	173.5	175.4	177.3	179.1	181.0	186.8	196.7	206.6	216.4	226.3	233.0
120°	185.4	186.7	187.9	189.3	190.6	196.0	205.5	214.9	224.4	233.8	240.2
122.5°	199.0	199.3	199.6	199.9	200.3	204.9	214.0	223.1	232.1	241.2	247.6
125°	217.5	217.2	216.9	216.5	216.2	220.2	228.5	236.8	245.1	253.3	259.5
127.5°	235.4	235.3	235.2	235.1	235.0	238.1	244.3	250.6	256.9	263.3	269.1
130°	246.9	246.9	246.8	246.7	246.6	249.1	254.5	259.9	265.2	270.6	276.4
132.5°	260.0	259.9	259.7	259.5	259.4	261.4	265.6	269.8	274.1	278.2	283.9
135°	275.8	276.3	276.6	277.1	277.6	279.0	281.3	283.6	286.0	288.3	293.5
137.5°	294.5	294.5	294.4	294.2	294.1	294.6	295.9	297.2	298.4	299.6	304.3
140°	307.1	306.9	306.7	306.5	306.3	306.4	306.8	307.1	307.5	307.7	312.1
142.5°	317.4	317.4	317.5	317.6	317.6	317.5	317.4	317.1	316.8	316.5	320.4
145°	332.9	332.9	332.8	332.8	332.7	332.8	332.8	332.9	333.0	333.1	335.0
147.5°	348.6	348.6	348.6	348.6	348.7	348.6	348.6	348.6	348.6	348.5	348.6
150°	358.3	358.2	358.2	358.1	358.1	358.1	358.1	358.1	358.1	358.1	358.1
152.5°	366.1	366.2	366.3	366.4	366.6	366.6	366.6	366.7	366.7	366.8	367.0
155°	379.7	379.7	379.7	379.7	379.7	379.7	379.6	379.5	379.5	379.4	379.7
157.5°	391.4	391.2	391.2	391.1	390.9	390.8	390.8	390.8	390.8	390.8	391.0
160°	398.3	398.2	398.2	398.1	398.0	397.9	397.9	397.8	397.8	397.7	397.9
162.5°	404.7	404.5	404.4	404.2	404.0	403.9	403.8	403.7	403.6	403.5	404.0
165°	413.3	413.1	412.9	412.6	412.5	412.3	412.1	412.0	411.8	411.7	412.1
167.5°	419.9	419.6	419.3	419.0	418.7	418.5	418.6	418.6	418.6	418.6	419.1
170°	423.7	423.3	422.9	422.5	422.2	422.1	422.1	422.2	422.3	422.4	422.7
172.5°	426.3	426.0	425.7	425.4	425.1	424.9	424.9	425.0	425.0	425.0	425.5
175°	430.0	429.6	429.2	428.9	428.5	428.3	428.2	428.1	428.1	428.0	428.5
177.5°	431.2	430.9	430.6	430.3	430.0	429.9	429.9	429.9	429.9	429.9	430.3
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6



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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°	192.9	202.7	212.4	218.9	221.9	224.8	227.8	230.7
90°	176.6	186.7	196.9	203.4	206.2	209.1	211.9	214.7
92.5°	174.4	184.1	193.8	200.0	202.7	205.5	208.3	211.0
95°	174.7	184.0	193.2	199.3	202.4	205.4	208.4	211.4
97.5°	179.7	188.7	197.7	203.7	206.6	209.4	212.4	215.2
100°	183.7	192.8	202.1	207.8	210.2	212.5	214.8	217.2
102.5°	188.4	197.5	206.4	212.2	214.9	217.5	220.2	222.9
105°	195.8	204.3	212.9	218.7	221.6	224.5	227.3	230.3
107.5°	205.3	213.8	222.2	227.6	230.0	232.4	234.8	237.1
110°	211.8	219.3	226.9	232.1	235.0	237.9	240.8	243.6



TEST NUMBER: P332674-830

CATALOG NUMBER: SA4XXDIP-C1195D365U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	218.5	225.9	233.3	238.4	241.1	243.8	246.6	249.2
115°	229.9	237.1	244.4	249.2	251.5	253.7	256.0	258.3
117.5°	239.7	246.4	253.2	257.8	260.2	262.8	265.3	267.9
120°	246.5	252.8	259.1	263.7	266.6	269.4	272.2	275.0
122.5°	254.0	260.5	266.9	271.3	273.3	275.5	277.7	279.7
125°	265.7	271.9	278.1	282.2	284.0	285.9	287.8	289.6
127.5°	275.0	280.9	286.7	290.8	292.9	295.1	297.2	299.4
130°	282.3	288.1	294.1	297.8	299.5	301.2	302.9	304.7
132.5°	289.5	295.1	300.7	304.4	306.3	308.2	310.1	312.0
135°	298.7	304.0	309.2	312.6	314.4	316.2	318.0	319.8
137.5°	309.1	313.7	318.4	321.6	323.3	325.1	326.8	328.5
140°	316.3	320.6	324.9	327.8	329.4	331.0	332.6	334.2
142.5°	324.1	327.9	331.8	334.3	335.7	337.1	338.5	339.9
145°	337.0	338.8	340.8	342.3	343.5	344.6	345.6	346.8
147.5°	348.8	349.1	349.3	349.9	350.9	351.9	352.9	353.8
150°	358.1	358.1	358.1	358.0	358.0	357.9	357.8	357.7
152.5°	367.2	367.4	367.6	367.5	367.3	367.1	366.9	366.7
155°	379.9	380.2	380.5	380.5	380.2	379.9	379.7	379.4
157.5°	391.2	391.4	391.6	391.6	391.3	391.2	390.9	390.6
160°	398.1	398.3	398.6	398.5	398.1	397.8	397.4	397.0
162.5°	404.4	404.7	405.1	405.1	404.8	404.4	404.1	403.7
165°	412.6	413.0	413.4	413.5	413.2	412.9	412.6	412.4
167.5°	419.5	419.9	420.4	420.4	419.9	419.4	419.0	418.5
170°	423.2	423.7	424.1	424.0	423.6	423.0	422.5	422.0
172.5°	426.0	426.5	427.0	427.0	426.5	425.9	425.5	424.9
175°	429.0	429.5	430.1	430.1	429.5	429.0	428.5	428.0
177.5°	430.6	431.1	431.5	431.5	431.0	430.6	430.1	429.6
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6

(END OF REPORT)