

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: P332675-935

Luminaire Tested: **SA4XXDIP-C1195D365U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332675-935
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-C1195D365U935-4F0-1E-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

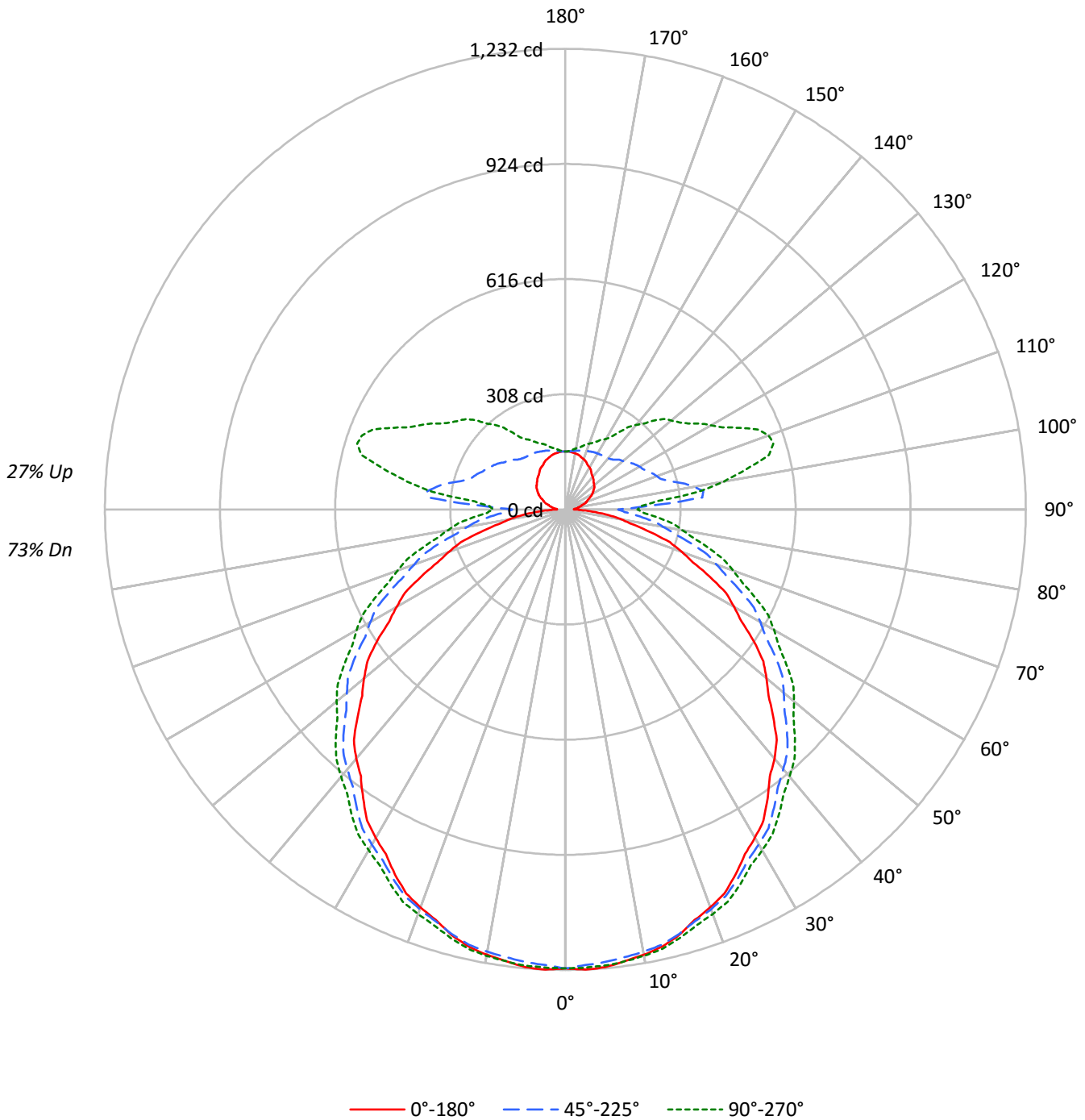
Lumens per Lamp: N/A
Luminaire Lumens: 5312.5 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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	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°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	2.2
10°-20°	333.1	6.3
20°-30°	503.7	9.5
30°-40°	609.4	11.5
40°-50°	644.3	12.1
50°-60°	606.4	11.4
60°-70°	503.1	9.5
70°-80°	353.4	6.7
80°-90°	200.6	3.8
90°-100°	230.5	4.3
100°-110°	320.6	6.0
110°-120°	267.5	5.0
120°-130°	208.7	3.9
130°-140°	160.6	3.0
140°-150°	114.7	2.2
150°-160°	78.6	1.5
160°-170°	46.2	0.9
170°-180°	15.0	0.3
0°-30°	953.1	17.9
0°-40°	1562.5	29.4
0°-60°	2813.1	53.0
0°-90°	3870.2	72.8
90°-120°	818.6	15.4
90°-150°	1302.6	24.5
90°-180°	1442.0	27.1
0°-180°	5312.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	77
90°	22	80	142	180	193	15
95°	28	95	368	278	243	25
105°	48	93	290	554	564	52
115°	71	101	243	436	516	71
125°	93	110	216	355	401	83
135°	106	127	188	292	336	83
145°	121	137	175	226	253	76
155°	136	147	170	192	200	63
165°	148	153	163	172	175	42
175°	154	155	156	158	158	15
180°	155	155	155	155	155	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	40.7	53.4	66.0	78.5	91.0	104.0	117.7	131.1	144.6	158.1	166.9
90°	22.3	35.1	48.3	60.8	73.4	86.0	101.0	114.1	127.9	141.5	150.2
92.5°	24.4	36.9	50.8	65.5	80.9	99.4	127.9	164.7	200.9	226.0	218.5
95°	27.9	38.9	52.0	66.0	83.4	107.5	146.5	209.0	294.2	367.6	382.9
97.5°	34.3	42.9	54.2	66.6	81.5	102.7	135.5	189.2	273.8	372.3	439.5
100°	38.2	46.2	56.3	67.8	81.6	101.3	131.1	177.5	251.4	349.1	435.3
102.5°	43.1	50.5	59.4	69.8	82.3	100.9	128.8	170.7	235.2	323.0	411.3
105°	48.0	55.0	62.6	72.4	83.9	101.5	127.4	164.0	217.9	290.3	369.5
107.5°	56.1	61.7	68.3	77.1	87.4	103.9	128.0	161.7	208.8	268.7	334.7
110°	60.6	65.5	71.3	79.2	88.9	104.7	128.7	160.7	204.9	259.8	316.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	64.8	69.2	74.8	82.0	91.3	106.5	129.6	159.9	201.4	252.0	303.1
115°	70.9	74.6	79.5	85.2	93.8	108.3	130.3	158.3	196.3	242.6	287.7
117.5°	78.7	81.2	84.7	89.7	96.8	110.7	131.4	157.3	191.7	234.1	276.0
120°	82.9	84.5	87.6	91.8	97.9	111.2	131.7	156.4	188.6	228.6	268.5
122.5°	87.8	88.6	90.9	94.2	100.0	112.6	132.5	155.8	185.9	222.8	261.1
125°	92.8	93.8	95.2	98.3	103.8	116.0	134.6	156.2	183.0	215.6	250.6
127.5°	98.2	98.9	100.7	104.3	110.0	121.4	137.8	156.5	179.2	206.6	237.7
130°	100.3	101.2	103.3	107.6	113.0	124.2	139.4	156.2	176.6	201.0	229.5
132.5°	103.4	104.1	106.9	111.0	116.9	127.1	141.4	156.9	174.9	196.3	222.5
135°	106.5	107.7	110.8	116.0	122.3	131.3	143.5	156.6	171.3	188.0	210.5
137.5°	111.0	111.8	114.9	119.5	125.8	133.7	144.1	155.4	167.5	181.6	200.6
140°	114.1	114.8	117.8	122.6	128.7	136.0	145.4	155.5	166.2	178.1	195.1
142.5°	116.4	117.3	120.4	125.2	131.3	138.2	146.9	155.8	165.4	175.8	191.0
145°	121.0	121.6	124.3	128.3	133.7	140.3	148.2	156.4	165.2	174.7	186.2
147.5°	126.4	126.4	128.7	132.9	137.3	143.2	150.6	157.8	165.6	173.6	182.4
150°	129.8	129.8	131.9	135.3	139.5	145.2	151.9	158.5	165.6	172.8	180.5
152.5°	131.8	131.8	134.2	137.6	141.5	146.9	152.8	159.0	165.1	171.6	178.5
155°	136.0	136.3	138.2	141.2	144.6	149.1	154.3	159.5	164.4	169.8	175.6
157.5°	140.3	140.3	142.1	144.4	147.3	150.9	155.3	159.5	163.5	167.9	172.6
160°	143.0	143.0	144.2	146.4	148.8	152.1	155.8	159.5	162.8	166.4	170.4
162.5°	145.4	145.3	146.2	148.1	150.2	152.9	156.3	159.5	162.0	165.0	168.5
165°	148.2	148.2	148.8	150.3	151.9	153.7	156.4	158.9	160.7	162.8	165.2
167.5°	150.9	150.6	150.9	152.1	152.9	154.4	156.4	158.1	159.2	160.6	162.3
170°	152.1	151.9	152.1	153.1	153.7	154.5	156.1	157.6	158.3	159.1	160.4
172.5°	153.3	153.1	153.1	153.8	154.1	154.8	155.8	157.1	157.3	157.6	158.7
175°	154.5	154.3	154.3	154.5	154.9	154.9	155.5	156.4	156.1	156.1	156.7
177.5°	155.2	154.9	154.6	154.9	154.9	154.9	155.2	155.6	155.2	155.2	155.4
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	175.8	184.8	193.6	199.4	202.2	204.9	207.6	210.3
90°	159.3	168.5	177.6	183.3	186.1	188.8	190.9	193.4
92.5°	206.5	200.4	199.8	199.2	198.0	198.9	200.3	202.7
95°	361.6	322.7	290.2	266.1	254.0	247.3	244.5	243.3
97.5°	460.2	450.7	429.0	402.5	383.3	367.6	361.1	357.4
100°	488.0	502.3	495.7	478.3	454.0	437.6	430.6	430.2
102.5°	480.3	518.5	530.8	526.6	512.7	501.7	494.5	494.9
105°	446.9	507.1	544.8	562.4	565.4	565.4	563.6	564.3
107.5°	403.9	467.4	517.4	549.4	566.6	575.8	581.0	583.9
110°	377.5	437.2	488.4	526.6	550.6	565.8	573.8	578.9



TEST NUMBER: P332675-935

CATALOG NUMBER: SA4XXDIP-C1195D365U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	356.2	409.6	458.1	496.1	523.1	541.0	551.1	558.0
115°	332.4	376.6	419.0	452.5	478.7	499.1	511.0	515.6
117.5°	315.9	353.3	387.6	416.8	439.7	457.5	469.8	474.2
120°	306.5	341.0	371.4	397.3	417.1	432.9	443.2	449.0
122.5°	298.1	331.6	359.8	382.9	399.8	413.4	422.3	427.8
125°	285.6	317.6	344.4	365.0	379.0	389.6	397.3	400.9
127.5°	270.7	301.2	327.6	347.3	361.6	371.5	378.5	382.4
130°	260.3	289.9	316.1	335.9	350.2	359.6	366.3	370.0
132.5°	250.3	278.2	303.6	323.3	337.3	347.8	354.2	357.9
135°	234.5	259.2	282.7	301.3	315.2	325.6	332.3	336.0
137.5°	221.0	242.2	262.3	279.1	292.0	301.9	307.4	311.2
140°	213.0	231.4	249.0	264.5	276.7	284.9	290.7	294.6
142.5°	206.5	222.6	237.8	251.2	261.9	269.4	274.5	277.5
145°	197.8	210.0	220.9	231.0	239.8	246.2	250.5	253.2
147.5°	190.7	199.1	206.7	214.0	220.6	226.0	229.3	230.8
150°	187.8	194.8	200.9	206.3	211.2	215.2	217.0	217.2
152.5°	185.1	191.1	196.7	201.2	205.3	208.5	209.7	210.0
155°	181.1	185.9	190.5	194.2	197.2	199.6	200.5	200.5
157.5°	176.8	180.8	184.7	187.6	189.9	191.7	192.3	192.3
160°	174.1	177.4	180.7	183.2	185.0	186.8	187.2	187.2
162.5°	171.4	174.3	176.8	179.1	180.4	182.2	182.5	182.3
165°	167.6	169.5	171.6	173.1	174.4	175.6	175.3	175.0
167.5°	164.1	165.5	167.2	168.1	168.7	169.5	169.4	169.2
170°	161.9	162.8	164.0	165.0	165.6	165.8	165.6	165.6
172.5°	160.0	160.6	161.4	162.0	162.4	162.6	162.4	161.9
175°	157.3	157.6	158.3	158.3	158.3	158.9	158.3	157.6
177.5°	155.6	155.8	155.8	156.1	155.8	156.1	155.6	155.2
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9

(END OF REPORT)