

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: P332674-930

Luminaire Tested: **SA4XXDIP-C1195D365U930-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332674-930
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-C1195D365U930-4F0-1E-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

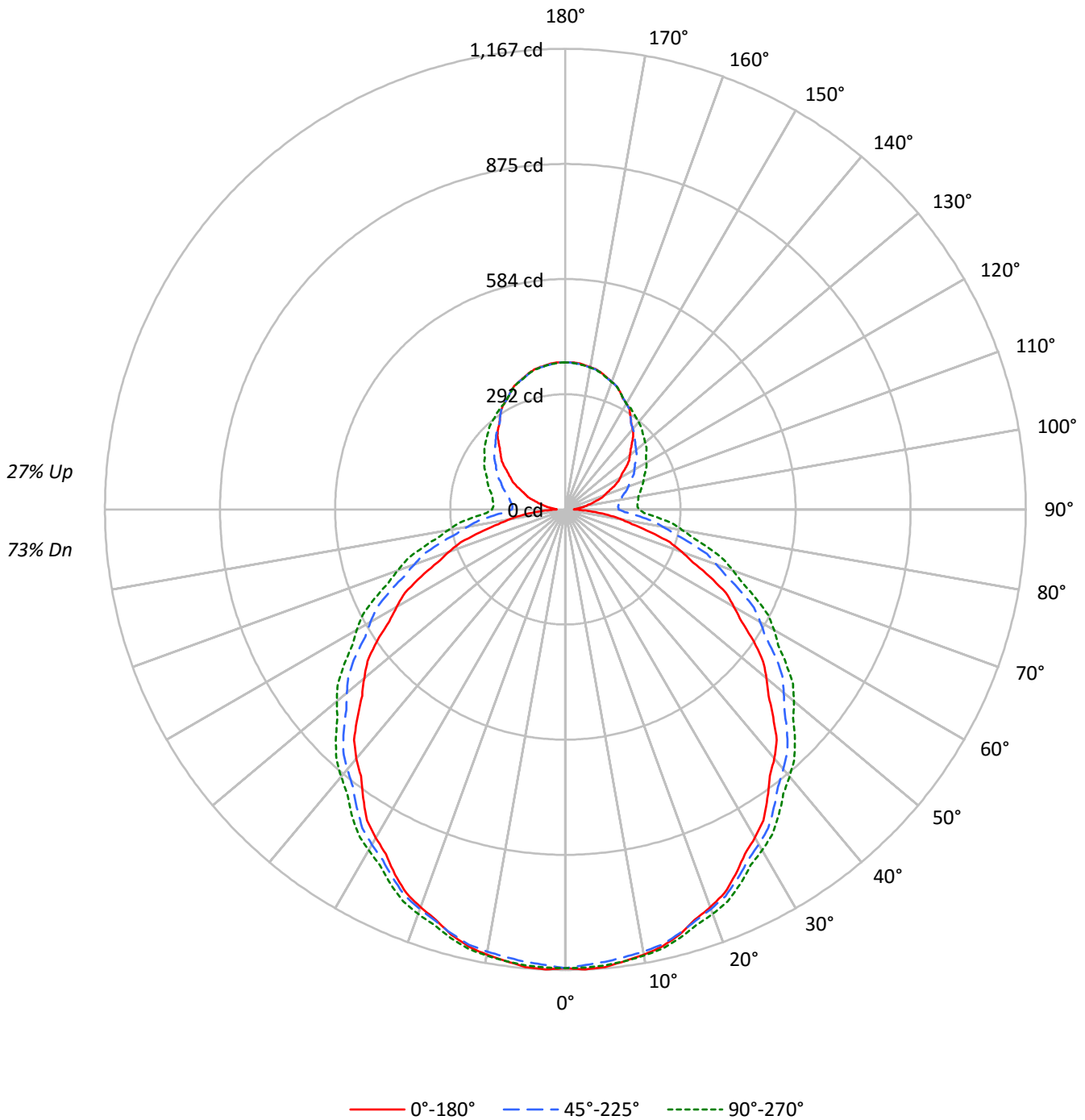
Lumens per Lamp: N/A
Luminaire Lumens: 4997.7 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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	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°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	2.2
10°-20°	315.4	6.3
20°-30°	477.0	9.5
30°-40°	577.1	11.5
40°-50°	610.1	12.2
50°-60°	574.2	11.5
60°-70°	476.4	9.5
70°-80°	334.6	6.7
80°-90°	190.3	3.8
90°-100°	136.9	2.7
100°-110°	155.9	3.1
110°-120°	179.3	3.6
120°-130°	194.4	3.9
130°-140°	196.5	3.9
140°-150°	182.5	3.7
150°-160°	151.2	3.0
160°-170°	100.6	2.0
170°-180°	35.2	0.7
0°-30°	902.5	18.1
0°-40°	1479.6	29.6
0°-60°	2663.8	53.3
0°-90°	3665.1	73.3
90°-120°	472.2	9.4
90°-150°	1045.6	20.9
90°-180°	1333.0	26.7
0°-180°	4997.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	22	77	135	173	186	15
95°	34	80	135	170	183	33
105°	79	106	154	187	199	84
115°	133	147	186	214	223	132
125°	188	189	219	242	250	168
135°	239	241	249	269	277	185
145°	288	288	288	295	300	180
155°	328	328	328	329	328	151
165°	358	357	356	358	357	101
175°	372	371	370	372	370	35
180°	372	372	372	372	372	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.7	50.6	62.6	74.5	86.5	98.8	111.6	124.4	137.1	149.9	158.4
90°	21.7	34.0	46.2	58.5	70.8	83.4	96.4	109.3	122.3	135.3	144.0
92.5°	25.9	37.2	48.4	59.6	70.8	82.8	95.6	108.4	121.2	134.0	142.4
95°	34.2	44.4	54.5	64.6	74.7	85.9	98.2	110.6	122.9	135.2	143.2
97.5°	45.6	54.2	62.9	71.6	80.2	90.7	103.0	115.3	127.5	139.8	147.7
100°	54.6	62.5	70.2	78.0	85.8	95.6	107.5	119.3	131.2	143.0	151.0
102.5°	65.2	72.0	78.7	85.4	92.0	101.2	112.8	124.3	135.9	147.5	155.2
105°	78.8	84.7	90.6	96.4	102.2	110.6	121.6	132.6	143.5	154.5	161.9
107.5°	95.6	100.4	105.3	110.1	114.9	122.4	132.5	142.7	152.9	163.0	170.3
110°	106.1	110.2	114.4	118.6	122.8	129.9	140.0	150.0	160.0	170.2	176.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	117.0	120.6	124.3	127.8	131.4	138.0	147.6	157.1	166.6	176.3	182.6
115°	133.4	136.0	138.6	141.2	143.8	149.7	158.8	168.0	177.1	186.2	192.5
117.5°	150.1	151.7	153.4	154.9	156.5	161.6	170.2	178.7	187.2	195.8	201.5
120°	160.4	161.5	162.6	163.7	164.9	169.5	177.7	185.9	194.1	202.3	207.7
122.5°	172.1	172.4	172.7	172.9	173.3	177.2	185.1	193.0	200.8	208.6	214.2
125°	188.2	187.8	187.6	187.3	187.0	190.5	197.6	204.8	212.0	219.1	224.5
127.5°	203.6	203.5	203.4	203.3	203.3	205.9	211.3	216.8	222.3	227.7	232.8
130°	213.6	213.5	213.4	213.4	213.3	215.5	220.1	224.8	229.4	234.1	239.1
132.5°	224.9	224.8	224.6	224.5	224.4	226.1	229.8	233.4	237.1	240.7	245.6
135°	238.6	239.0	239.3	239.7	240.1	241.3	243.3	245.3	247.4	249.4	253.9
137.5°	254.8	254.7	254.6	254.5	254.4	254.9	255.9	257.1	258.1	259.2	263.3
140°	265.6	265.5	265.3	265.1	265.0	265.1	265.4	265.6	266.0	266.2	269.9
142.5°	274.5	274.6	274.7	274.8	274.8	274.7	274.5	274.3	274.0	273.8	277.1
145°	288.0	288.0	287.9	287.9	287.8	287.9	287.9	288.0	288.0	288.1	289.8
147.5°	301.6	301.6	301.6	301.6	301.7	301.6	301.6	301.5	301.5	301.4	301.6
150°	309.9	309.8	309.8	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7
152.5°	316.7	316.7	316.8	316.9	317.1	317.1	317.2	317.2	317.2	317.3	317.5
155°	328.4	328.4	328.4	328.4	328.4	328.4	328.3	328.2	328.2	328.2	328.4
157.5°	338.6	338.4	338.3	338.3	338.1	338.0	338.0	338.0	338.0	338.0	338.2
160°	344.5	344.5	344.5	344.4	344.3	344.2	344.2	344.1	344.1	344.0	344.2
162.5°	350.1	349.9	349.8	349.6	349.4	349.4	349.3	349.2	349.1	349.0	349.4
165°	357.5	357.3	357.2	356.9	356.8	356.6	356.4	356.4	356.2	356.1	356.4
167.5°	363.2	363.0	362.7	362.4	362.2	362.0	362.1	362.1	362.1	362.1	362.5
170°	366.5	366.2	365.8	365.5	365.2	365.1	365.1	365.2	365.3	365.3	365.7
172.5°	368.8	368.5	368.2	367.9	367.7	367.5	367.5	367.6	367.6	367.6	368.0
175°	371.9	371.6	371.3	371.0	370.6	370.5	370.4	370.3	370.3	370.2	370.6
177.5°	373.0	372.8	372.4	372.2	371.9	371.9	371.9	371.9	371.9	371.9	372.2
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	166.9	175.4	183.8	189.3	191.9	194.4	197.1	199.6
90°	152.8	161.5	170.3	175.9	178.4	180.8	183.3	185.7
92.5°	150.8	159.2	167.6	173.0	175.4	177.7	180.2	182.5
95°	151.2	159.1	167.1	172.4	175.0	177.7	180.3	182.9
97.5°	155.5	163.2	171.0	176.2	178.7	181.2	183.7	186.1
100°	158.9	166.8	174.8	179.8	181.8	183.8	185.8	187.8
102.5°	163.0	170.8	178.6	183.5	185.9	188.2	190.5	192.8
105°	169.3	176.8	184.2	189.1	191.7	194.2	196.7	199.2
107.5°	177.6	184.9	192.2	196.9	198.9	201.1	203.1	205.1
110°	183.2	189.7	196.2	200.7	203.3	205.8	208.3	210.8



TEST NUMBER: P332674-930

CATALOG NUMBER: SA4XXDIP-C1195D365U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.0	195.4	201.8	206.2	208.6	210.9	213.3	215.6
115°	198.9	205.1	211.4	215.6	217.5	219.5	221.4	223.4
117.5°	207.3	213.1	219.0	223.0	225.1	227.3	229.5	231.7
120°	213.2	218.7	224.1	228.1	230.6	233.0	235.5	237.9
122.5°	219.7	225.3	230.9	234.6	236.4	238.3	240.2	242.0
125°	229.8	235.2	240.6	244.1	245.6	247.3	248.9	250.5
127.5°	237.9	243.0	248.0	251.5	253.4	255.3	257.1	258.9
130°	244.2	249.2	254.4	257.6	259.1	260.6	262.0	263.6
132.5°	250.4	255.3	260.1	263.3	265.0	266.6	268.2	269.9
135°	258.4	262.9	267.4	270.4	272.0	273.5	275.1	276.6
137.5°	267.3	271.3	275.4	278.2	279.6	281.2	282.7	284.1
140°	273.6	277.3	281.0	283.6	284.9	286.3	287.7	289.1
142.5°	280.4	283.6	287.0	289.2	290.4	291.6	292.8	294.0
145°	291.5	293.1	294.8	296.1	297.1	298.1	299.0	299.9
147.5°	301.7	302.0	302.1	302.6	303.5	304.4	305.2	306.1
150°	309.7	309.7	309.7	309.7	309.7	309.6	309.5	309.4
152.5°	317.6	317.8	318.0	317.9	317.7	317.6	317.4	317.2
155°	328.6	328.9	329.1	329.1	328.9	328.6	328.4	328.2
157.5°	338.3	338.6	338.8	338.8	338.5	338.3	338.1	337.9
160°	344.4	344.5	344.8	344.7	344.4	344.1	343.7	343.4
162.5°	349.8	350.1	350.4	350.4	350.2	349.8	349.5	349.2
165°	356.9	357.3	357.6	357.7	357.4	357.2	356.9	356.7
167.5°	362.9	363.2	363.6	363.6	363.2	362.8	362.4	362.0
170°	366.1	366.5	366.9	366.8	366.4	365.9	365.5	365.0
172.5°	368.5	368.9	369.3	369.3	368.9	368.4	368.0	367.5
175°	371.1	371.5	372.0	372.0	371.5	371.1	370.6	370.2
177.5°	372.5	372.9	373.2	373.2	372.8	372.4	372.0	371.6
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5

(END OF REPORT)