

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: P332684-930

Luminaire Tested: **SA4XXDIP-C1195D590U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332684-930
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-C1195D590U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

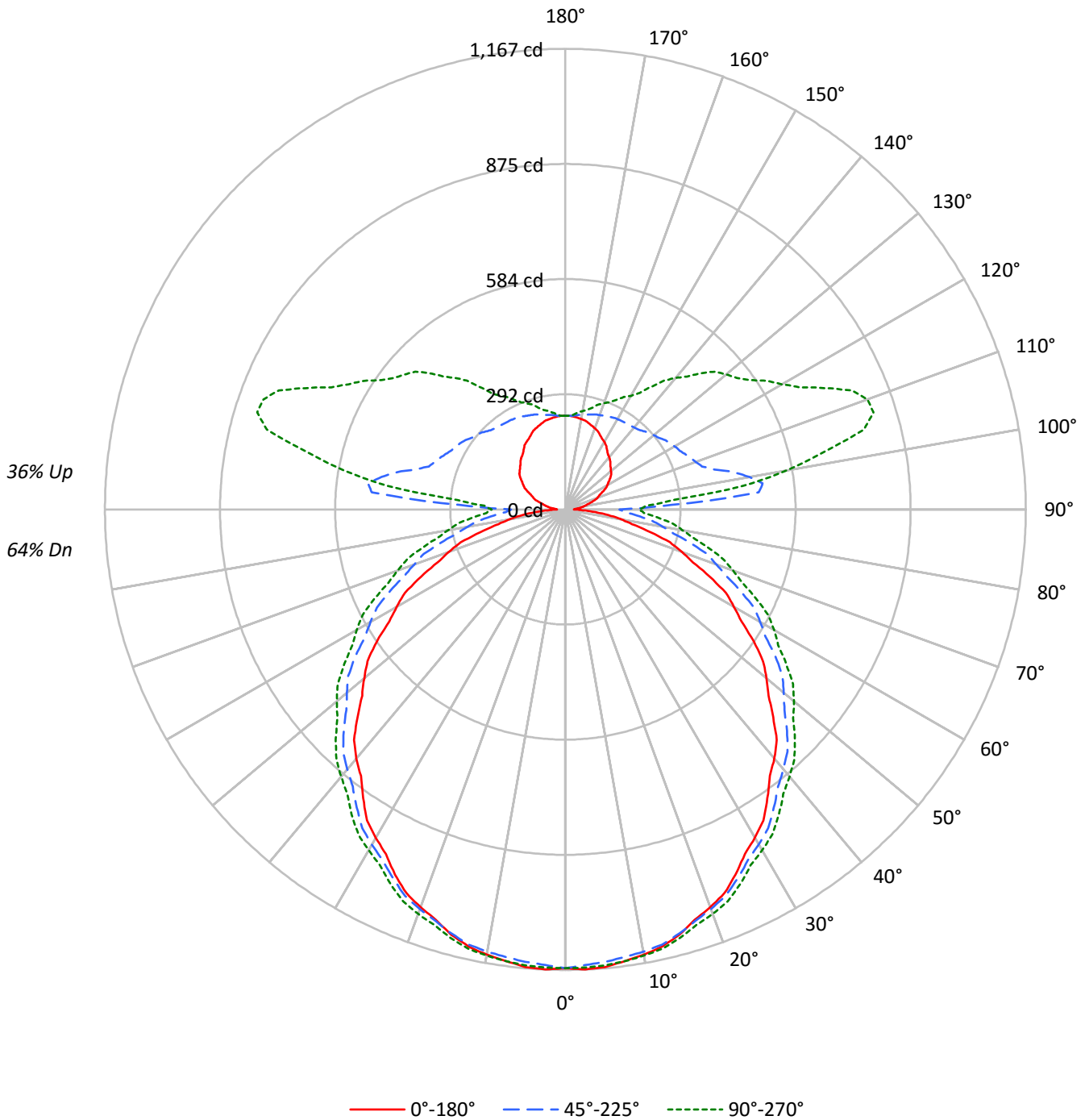
Lumens per Lamp: N/A
Luminaire Lumens: 5686.1 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 55.1
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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	64
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	51	49	46	42
3	82	72	64	57	77	67	60	54	59	54	49	52	47	44	45	42	39	35
4	75	63	55	48	70	59	52	46	53	46	41	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	40	36	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	25	30	25	22	20
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

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	1.9
10°-20°	315.4	5.5
20°-30°	477.0	8.4
30°-40°	577.1	10.1
40°-50°	610.1	10.7
50°-60°	574.2	10.1
60°-70°	476.4	8.4
70°-80°	334.6	5.9
80°-90°	190.5	3.3
90°-100°	283.3	5.0
100°-110°	439.0	7.7
110°-120°	374.5	6.6
120°-130°	299.6	5.3
130°-140°	237.2	4.2
140°-150°	173.5	3.1
150°-160°	120.1	2.1
160°-170°	70.6	1.2
170°-180°	23.0	0.4
0°-30°	902.5	15.9
0°-40°	1479.6	26.0
0°-60°	2663.8	46.8
0°-90°	3665.3	64.5
90°-120°	1096.9	19.3
90°-150°	1807.2	31.8
90°-180°	2021.0	35.5
0°-180°	5686.1	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°	21	77	137	174	187	15
95°	32	109	492	335	274	31
105°	66	118	391	774	783	71
115°	104	141	333	612	727	103
125°	139	164	307	505	570	124
135°	161	192	280	427	489	125
145°	184	209	267	341	379	116
155°	208	224	260	294	306	96
165°	226	234	249	263	267	64
175°	236	237	239	242	241	22
180°	237	237	237	237	237	



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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°	38.6	50.6	62.7	74.6	86.5	98.7	111.9	124.7	137.5	150.3	158.7
90°	21.3	33.8	46.8	58.8	70.8	82.8	98.1	110.6	123.9	137.3	145.2
92.5°	25.1	37.9	52.7	68.8	86.0	107.1	143.2	191.7	239.3	270.2	253.6
95°	32.3	43.2	57.4	73.0	93.7	123.9	176.3	264.4	387.4	492.3	510.8
97.5°	42.9	51.1	63.3	77.1	94.9	121.2	164.2	238.9	361.2	504.4	602.4
100°	49.7	57.2	68.0	81.0	97.4	121.7	160.5	224.3	330.4	472.9	599.7
102.5°	57.1	64.4	73.9	85.8	100.8	123.8	159.6	217.0	308.8	436.0	566.4
105°	66.1	73.3	81.4	92.8	107.0	128.7	161.7	211.0	286.8	391.0	507.5
107.5°	78.7	84.4	91.5	102.2	114.9	135.7	166.2	211.5	277.3	362.6	458.9
110°	86.3	91.2	97.6	107.2	119.6	139.3	169.9	212.5	273.9	351.4	433.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	93.4	97.9	104.2	113.0	124.9	144.1	173.5	213.9	271.3	342.8	416.9
115°	103.6	107.6	113.5	120.7	132.2	150.7	178.6	215.6	268.2	333.3	398.2
117.5°	115.6	118.5	122.9	129.6	139.5	157.6	183.8	218.2	265.5	325.0	385.2
120°	122.8	124.6	128.7	134.7	143.5	161.1	187.2	219.7	263.9	319.8	377.2
122.5°	130.2	131.3	134.8	139.7	148.5	165.2	190.8	221.4	262.5	314.2	369.0
125°	138.7	140.2	142.8	147.6	156.1	172.6	196.6	225.3	261.8	307.1	357.3
127.5°	147.1	148.3	151.3	156.9	165.8	181.6	203.3	228.5	259.6	298.3	342.6
130°	150.9	152.5	155.9	162.6	171.1	186.8	207.2	230.0	258.3	292.7	333.3
132.5°	155.7	156.9	161.4	167.8	177.1	191.5	211.0	232.5	257.7	288.2	325.1
135°	161.2	163.1	167.7	175.6	185.4	198.5	215.9	234.6	255.8	280.1	311.7
137.5°	168.0	169.5	174.3	181.6	191.4	203.3	218.6	235.2	253.1	274.0	300.4
140°	172.8	173.9	178.8	186.4	195.8	207.0	221.3	236.4	252.5	270.5	294.2
142.5°	177.0	178.3	183.0	190.5	199.8	210.5	223.9	237.5	252.4	268.4	289.5
145°	184.1	185.2	189.6	195.8	204.3	214.4	226.5	239.0	252.6	266.9	283.6
147.5°	192.3	192.6	196.3	202.8	209.8	218.9	230.2	241.2	253.0	265.3	278.7
150°	197.5	197.7	201.2	206.4	213.1	221.8	232.1	242.3	253.0	264.2	275.8
152.5°	201.4	201.4	205.0	210.2	216.4	224.5	233.6	243.0	252.3	262.3	272.8
155°	207.9	208.4	211.2	215.8	220.9	227.9	235.8	243.7	251.1	259.5	268.3
157.5°	214.5	214.5	217.1	220.7	225.2	230.6	237.4	243.7	250.0	256.7	263.8
160°	218.6	218.6	220.5	223.7	227.4	232.5	238.1	243.7	248.8	254.4	260.5
162.5°	222.3	221.9	223.4	226.3	229.7	233.7	238.9	243.7	247.7	252.2	257.5
165°	226.5	226.5	227.4	229.8	232.1	234.9	239.0	242.8	245.6	248.8	252.6
167.5°	230.6	230.2	230.6	232.4	233.7	235.9	239.0	241.7	243.4	245.5	248.1
170°	232.5	232.1	232.5	233.9	234.9	236.3	238.6	240.9	241.8	243.2	245.1
172.5°	234.4	233.9	234.0	235.1	235.6	236.6	238.2	240.2	240.4	241.0	242.5
175°	236.3	235.8	235.8	236.3	236.8	236.8	237.7	239.0	238.6	238.6	239.5
177.5°	237.1	236.8	236.4	236.8	236.8	236.8	237.1	237.8	237.1	237.1	237.5
180°	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8



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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°	167.1	175.6	184.1	189.6	192.2	194.9	197.3	199.8
90°	154.0	162.9	171.8	177.1	179.9	182.6	184.5	186.8
92.5°	230.3	215.9	209.9	205.9	202.8	202.5	203.3	205.5
95°	473.5	409.2	354.7	314.8	294.6	282.8	277.0	273.6
97.5°	629.5	610.3	572.4	528.9	498.0	472.5	461.1	453.8
100°	675.5	692.6	677.6	648.1	609.7	583.3	571.4	569.7
102.5°	667.2	720.9	735.1	725.7	703.1	684.8	672.4	671.6
105°	621.3	709.0	762.2	786.1	789.4	787.9	783.7	783.3
107.5°	560.4	653.2	725.1	771.2	796.3	808.9	815.7	819.0
110°	523.3	610.4	684.5	740.1	775.5	797.4	808.0	814.5



TEST NUMBER: P332684-930

CATALOG NUMBER: SA4XXDIP-C1195D590U930-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	494.2	571.8	641.9	697.4	737.3	763.2	777.2	786.4
115°	462.8	526.3	587.1	635.9	674.7	704.6	721.5	727.2
117.5°	442.7	496.0	544.9	586.9	620.5	646.3	663.7	668.9
120°	431.8	480.9	523.8	560.9	589.7	612.5	626.9	634.4
122.5°	422.2	469.7	509.3	542.2	566.7	586.3	598.6	605.8
125°	407.4	452.9	490.5	519.7	540.1	555.3	565.8	570.4
127.5°	389.7	433.2	470.3	498.2	518.9	532.9	542.3	547.1
130°	377.1	419.1	455.8	484.0	504.8	518.1	527.3	531.8
132.5°	364.6	404.1	440.0	468.0	488.4	503.3	512.1	516.6
135°	345.6	380.5	413.4	439.9	460.2	475.0	484.2	488.7
137.5°	329.1	358.8	386.9	410.8	429.7	443.9	451.5	456.3
140°	319.4	345.0	369.7	391.8	409.6	421.3	429.3	434.4
142.5°	311.2	333.8	355.0	374.1	389.8	400.5	407.5	411.3
145°	300.2	317.7	333.5	347.9	360.7	369.7	375.5	379.0
147.5°	291.1	303.9	315.4	326.1	335.7	343.3	347.8	349.5
150°	287.0	297.7	307.0	315.4	322.8	328.8	331.6	332.1
152.5°	282.8	292.0	300.6	307.5	313.8	318.8	320.4	320.9
155°	276.7	284.1	291.1	296.7	301.4	305.1	306.5	306.5
157.5°	270.1	276.4	282.2	286.7	290.2	293.0	293.8	293.8
160°	266.0	271.2	276.2	280.0	282.7	285.6	286.0	286.0
162.5°	262.0	266.3	270.3	273.7	275.7	278.5	279.0	278.6
165°	256.2	259.0	262.3	264.6	266.5	268.3	267.9	267.4
167.5°	250.8	252.9	255.5	256.9	257.9	259.0	258.9	258.6
170°	247.4	248.8	250.7	252.1	253.0	253.5	253.0	253.0
172.5°	244.4	245.5	246.6	247.6	248.2	248.7	248.2	247.4
175°	240.4	240.9	241.8	241.8	241.8	242.8	241.8	240.9
177.5°	237.8	238.2	238.2	238.6	238.2	238.6	237.8	237.1
180°	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8

(END OF REPORT)