

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: P333762

Luminaire Tested: **SA2XXDP-C675D930-4F0-1E-UDD-A**

Issue Date: 10/11/2019

Test Information

Test Method: LM-79-08
Report Number: P333762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATIONS CENTER
Issue Date: 10/11/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDP-C675D930-4F0-1E-UDD-A
Description: DEFINE 2 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 675 LUMENS PER FOOT
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

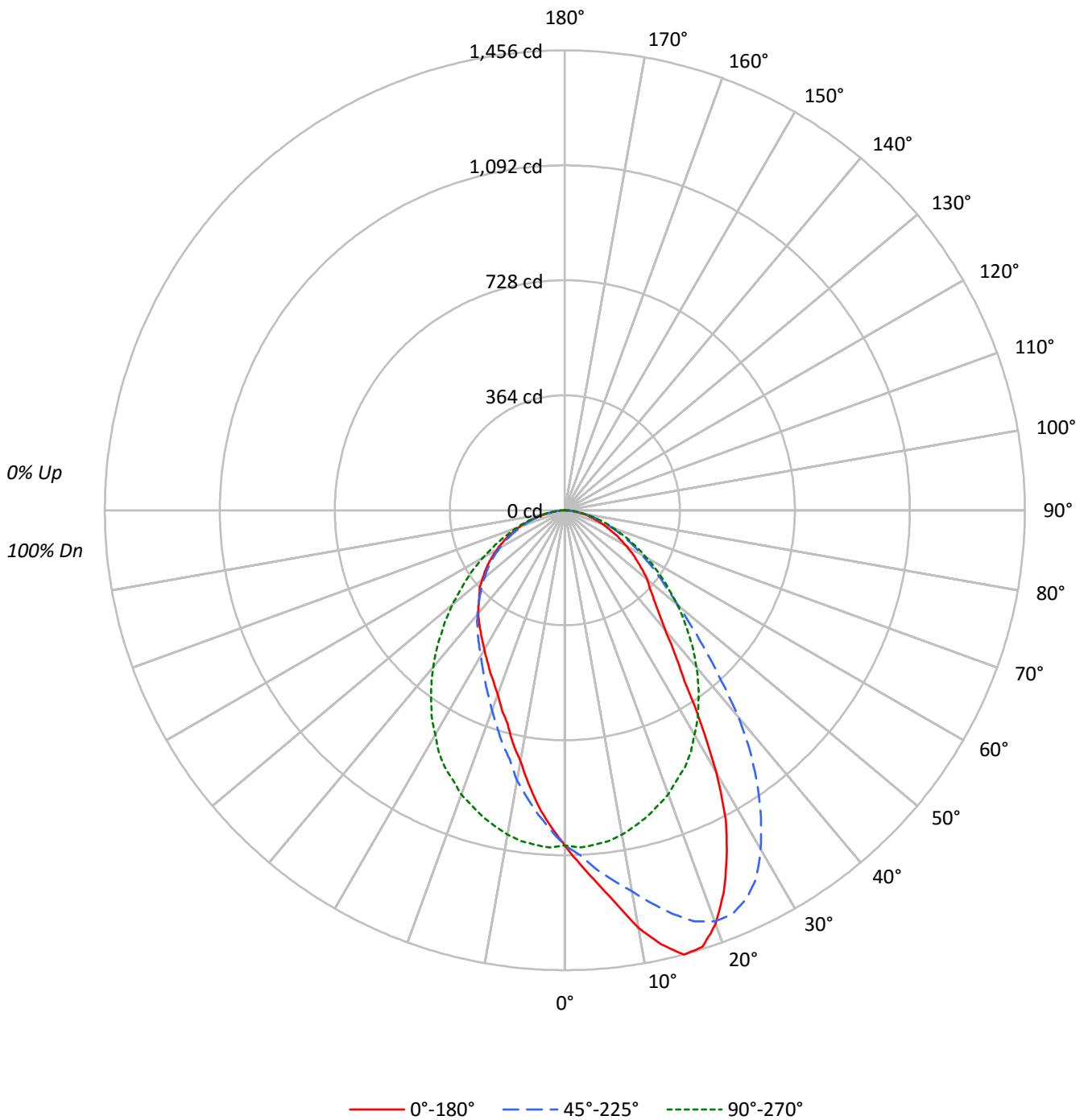
Lumens per Lamp: N/A
Luminaire Lumens: 2340.2 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 26.3
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100	
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86			86	
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74			74	
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64			64	
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55			55	
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49			49	
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45	43			43	
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39			39	
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35			35	
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32			32	
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29			29	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17128	17128	17128
5°	19203	17240	15277
10°	22004	17098	13221
15°	24343	16786	11681
20°	23971	16448	10648
25°	21615	16001	9994
30°	17862	15286	9516
35°	13019	14536	9177
40°	10397	13654	8987
45°	9086	12632	8732
50°	8540	11642	8560
55°	7873	10638	8332
60°	7214	9571	7979
65°	6571	8615	7633
70°	5967	7681	7119
75°	5290	6638	6307
80°	4547	5495	5077
85°	4076	4076	3020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	4.3
10°-20°	294.1	12.6
20°-30°	426.8	18.2
30°-40°	449.9	19.2
40°-50°	398.1	17.0
50°-60°	317.8	13.6
60°-70°	215.9	9.2
70°-80°	110.5	4.7
80°-90°	26.1	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	821.9	35.1
0°-40°	1271.9	54.3
0°-60°	1987.8	84.9
0°-90°	2340.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2340.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1061	1061	1061	1061	1061	
5°	1185	1140	1064	966	943	118
15°	1456	1323	1004	764	699	403
25°	1213	1358	898	597	561	550
35°	660	1064	738	479	466	428
45°	398	630	553	379	382	312
55°	280	362	378	285	296	251
65°	172	215	226	188	200	171
75°	85	104	106	95	101	90
85°	22	24	22	18	16	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8
2.5°	1122.0	1122.4	1123.2	1116.7	1115.9	1115.9	1110.2	1105.3	1099.6	1091.8	1092.6
5°	1184.8	1189.2	1190.9	1186.0	1178.6	1177.8	1170.9	1159.5	1148.9	1140.3	1134.2
7.5°	1257.3	1259.0	1255.7	1250.0	1245.1	1235.7	1224.3	1213.3	1197.0	1182.3	1171.7
10°	1342.1	1344.6	1337.6	1328.3	1320.5	1309.1	1290.4	1271.2	1248.0	1225.5	1207.6
12.5°	1406.5	1413.5	1404.1	1404.9	1390.2	1373.5	1350.3	1342.9	1307.9	1274.5	1254.9
15°	1456.3	1455.9	1456.7	1448.9	1439.2	1436.7	1413.1	1387.4	1341.3	1323.0	1291.2
17.5°	1448.9	1454.7	1457.9	1455.5	1453.8	1450.2	1440.0	1420.8	1395.5	1364.6	1326.6
20°	1395.1	1403.3	1404.5	1413.9	1419.2	1426.1	1429.0	1424.5	1410.2	1385.3	1353.5
22.5°	1312.0	1312.8	1317.3	1333.2	1346.2	1366.2	1376.8	1396.8	1393.5	1384.5	1359.3
25°	1213.3	1209.2	1223.5	1230.8	1257.3	1285.1	1305.0	1327.0	1346.6	1358.4	1350.7
27.5°	1104.0	1095.5	1117.1	1136.2	1155.0	1181.9	1212.1	1248.0	1275.3	1312.4	1321.3
30°	958.1	961.8	982.1	1002.9	1035.5	1077.9	1113.0	1153.4	1197.0	1239.8	1269.6
32.5°	800.7	817.4	828.4	863.1	890.8	939.3	994.8	1047.8	1104.9	1155.0	1205.1
35°	660.5	676.8	694.7	718.0	758.3	805.2	855.3	923.4	997.6	1064.1	1118.7
37.5°	571.6	568.7	579.7	596.9	631.5	671.9	731.4	800.7	889.6	963.4	1036.8
40°	493.3	491.7	499.0	514.5	539.4	567.1	617.7	676.8	757.9	853.3	945.0
42.5°	439.5	441.1	444.4	454.2	469.3	490.9	525.5	573.6	646.2	734.7	835.0
45°	397.9	400.8	405.2	410.5	420.3	439.1	460.3	496.2	554.9	629.9	726.9
47.5°	365.3	366.1	371.0	375.9	381.6	393.0	411.8	434.6	479.4	543.5	630.3
50°	340.0	337.2	340.4	344.1	350.2	357.5	369.0	390.2	417.9	467.2	536.9
52.5°	309.0	309.8	312.7	313.5	318.8	326.2	336.3	349.4	373.9	409.7	464.0
55°	279.7	281.7	283.3	285.8	290.7	296.0	304.1	313.9	333.5	362.4	404.8
57.5°	252.0	252.8	254.0	259.3	262.1	267.0	275.2	284.2	297.2	319.6	353.1
60°	223.4	223.4	226.7	228.7	232.8	237.7	243.8	252.4	263.8	281.3	307.0
62.5°	197.3	196.9	197.7	201.4	204.3	208.7	214.9	221.8	232.4	247.5	267.4
65°	172.0	171.2	173.7	174.5	177.8	182.2	187.1	194.9	203.4	214.9	233.6
67.5°	146.8	148.0	149.6	151.3	152.9	158.2	161.4	167.2	174.5	184.3	197.3
70°	126.4	126.4	126.4	127.6	130.1	132.5	135.8	140.2	147.2	155.3	166.7
72.5°	103.6	105.2	106.8	105.6	108.9	110.1	114.2	116.2	122.7	127.2	137.0
75°	84.8	84.8	84.8	86.8	88.1	89.3	91.7	94.2	97.4	104.0	109.3
77.5°	66.9	66.5	66.9	67.3	68.9	70.5	71.3	73.4	76.6	79.9	84.8
80°	48.9	49.7	50.1	51.0	51.0	51.8	52.2	55.0	57.1	59.1	62.0
82.5°	35.1	35.1	35.1	35.1	35.5	35.9	37.1	37.5	37.9	39.5	41.6
85°	22.0	21.6	21.6	22.4	22.0	22.0	22.8	23.6	23.6	24.1	25.3
87.5°	10.6	10.6	11.0	10.6	10.6	11.0	11.0	10.6	11.0	11.4	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8
2.5°	1095.5	1092.2	1090.2	1082.8	1076.3	1069.8	1067.8	1068.6	1059.6	1051.0	1047.4
5°	1130.9	1122.8	1115.0	1104.0	1091.0	1076.7	1069.4	1063.7	1049.4	1033.9	1024.9
7.5°	1163.2	1152.6	1138.7	1119.1	1101.2	1080.0	1066.9	1055.9	1036.0	1015.2	1002.5
10°	1192.1	1176.2	1157.0	1131.8	1108.5	1081.2	1062.0	1042.9	1018.4	992.3	976.0
12.5°	1217.0	1194.1	1175.4	1141.1	1112.6	1076.7	1053.1	1024.1	998.0	965.8	949.9
15°	1259.4	1219.8	1183.9	1147.3	1113.4	1065.7	1040.4	1004.2	970.3	932.0	913.6
17.5°	1290.8	1248.0	1192.5	1148.1	1110.6	1059.6	1023.3	980.1	941.8	899.4	874.9
20°	1316.9	1265.9	1205.1	1149.7	1102.4	1042.1	1001.7	957.3	910.4	861.1	834.1
22.5°	1332.3	1278.1	1218.2	1143.6	1086.1	1027.8	974.4	924.7	877.0	822.7	794.2
25°	1333.2	1284.2	1220.6	1140.7	1073.1	1006.6	945.4	898.2	840.7	790.9	749.8
27.5°	1319.7	1281.0	1219.4	1135.0	1058.0	981.7	915.3	863.5	802.8	748.9	707.8
30°	1289.9	1269.6	1210.0	1125.2	1039.2	955.6	880.6	819.9	759.5	704.9	662.5
32.5°	1243.9	1243.5	1192.9	1111.4	1019.2	922.6	844.3	782.8	714.3	660.9	620.9
35°	1180.7	1200.3	1167.2	1089.4	993.1	891.6	807.6	737.5	668.2	616.8	578.9
37.5°	1100.4	1145.6	1132.6	1060.0	959.7	858.6	767.3	693.9	627.4	574.4	537.3
40°	1016.8	1078.8	1087.7	1025.4	923.8	819.1	720.8	647.8	583.4	536.1	498.6
42.5°	927.1	1002.1	1030.7	983.8	884.7	777.5	679.2	603.0	539.4	493.7	461.5
45°	824.8	920.6	965.0	936.5	840.3	731.0	629.9	553.2	495.3	452.1	426.4
47.5°	732.2	836.2	892.9	879.4	792.6	684.1	584.2	509.6	452.1	417.1	393.0
50°	632.7	740.4	812.5	815.8	740.4	633.2	532.9	463.5	411.8	379.6	360.8
52.5°	546.3	647.8	728.1	748.9	682.1	580.2	486.8	417.9	373.9	344.9	328.6
55°	473.3	560.2	647.4	679.2	624.2	526.3	438.7	377.9	335.1	314.7	300.1
57.5°	404.0	480.3	563.0	596.5	561.4	475.4	390.6	337.2	300.9	282.5	271.1
60°	351.4	408.5	480.3	522.3	492.9	418.3	346.5	296.4	267.9	252.0	241.4
62.5°	302.5	351.4	409.3	446.8	434.2	364.9	302.5	259.7	236.1	221.4	214.4
65°	257.7	297.6	344.5	380.0	369.4	316.0	263.4	225.5	205.9	194.1	187.9
67.5°	219.3	249.9	283.3	316.0	307.0	267.4	223.0	192.4	177.3	166.7	163.1
70°	183.5	205.5	234.4	259.3	252.4	221.4	187.9	162.7	150.0	141.5	137.8
72.5°	149.2	166.3	186.7	205.9	201.8	177.3	150.8	133.3	124.3	116.6	113.7
75°	117.8	131.7	145.1	158.6	157.4	137.4	121.1	106.4	98.7	92.5	91.3
77.5°	92.1	100.7	110.5	119.0	117.0	104.0	90.5	81.5	75.4	71.3	70.9
80°	66.5	70.9	77.5	83.2	80.3	75.4	65.2	59.1	55.0	51.0	49.3
82.5°	43.6	48.1	51.4	53.8	51.8	47.3	42.0	38.3	36.3	33.8	33.4
85°	25.3	27.7	29.4	30.2	29.4	26.5	23.6	22.0	20.0	18.8	18.3
87.5°	12.2	12.2	12.2	13.0	11.8	11.8	10.2	9.0	8.6	8.2	7.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8	1060.8
2.5°	1043.3	1040.8	1032.3	1027.8	1020.5	1013.5	1009.0	1011.1	1012.7	1011.9	1010.7
5°	1016.8	1009.0	997.2	987.0	979.7	966.2	960.5	957.7	955.2	952.4	949.5
7.5°	987.4	976.4	959.7	946.7	933.6	916.5	907.9	903.0	897.7	891.6	885.9
10°	955.6	938.5	920.6	900.2	883.9	868.8	855.3	846.4	838.2	830.5	824.8
12.5°	922.2	901.8	878.6	848.8	830.5	807.2	808.1	790.5	776.7	772.6	765.7
15°	886.3	858.6	830.5	797.5	783.2	763.6	751.4	739.2	728.1	720.4	718.4
17.5°	847.2	810.1	782.8	758.3	735.1	715.1	704.5	694.7	685.3	673.9	673.5
20°	801.1	770.1	739.6	718.8	694.7	674.3	660.5	650.7	642.9	636.8	631.5
22.5°	757.5	722.8	695.5	672.3	648.6	633.2	623.0	613.6	607.5	600.5	595.6
25°	710.2	683.7	653.1	627.4	607.9	597.3	588.3	580.2	576.1	571.6	565.9
27.5°	669.8	640.5	610.3	590.3	572.4	563.0	556.1	550.0	546.3	543.5	539.8
30°	626.6	596.9	574.4	554.9	540.6	531.2	527.2	523.9	519.4	517.8	516.1
32.5°	585.0	559.0	540.6	524.3	510.8	505.5	501.9	499.0	495.8	494.1	490.5
35°	546.3	523.9	505.1	495.8	484.7	479.4	476.6	472.5	469.3	467.6	467.2
37.5°	509.2	488.8	476.2	463.5	458.2	455.4	451.3	448.5	447.2	446.8	446.4
40°	473.3	457.4	446.4	436.6	434.6	429.7	426.4	424.0	424.0	424.4	424.0
42.5°	440.7	426.9	417.5	409.3	406.9	404.4	401.2	401.6	402.4	404.0	402.4
45°	407.7	397.5	390.6	386.5	382.0	379.2	378.7	380.0	380.4	380.8	382.0
47.5°	376.7	370.2	363.7	358.8	356.7	356.3	355.5	357.5	359.6	360.0	362.0
50°	349.8	342.1	336.8	333.9	332.3	331.5	332.3	334.7	336.3	338.4	339.6
52.5°	319.6	314.7	311.5	309.4	309.0	309.8	309.8	312.7	315.6	316.0	316.4
55°	292.3	288.2	287.4	283.8	285.4	285.0	287.0	288.6	291.1	293.5	293.9
57.5°	264.6	260.9	258.5	258.9	259.3	260.9	262.6	265.4	268.3	271.1	271.1
60°	236.9	235.2	234.0	234.0	234.8	237.3	239.3	242.2	243.8	245.4	246.7
62.5°	211.6	210.0	208.7	209.6	212.0	213.2	215.7	216.9	218.5	220.2	220.6
65°	184.7	183.9	185.1	185.9	186.3	188.4	191.2	192.4	194.1	194.9	197.7
67.5°	160.2	160.2	159.8	161.0	163.5	163.9	166.7	170.0	170.0	171.6	173.7
70°	135.4	136.2	137.0	137.8	139.8	140.7	142.7	143.9	145.5	146.8	148.0
72.5°	112.5	112.5	113.3	112.9	114.6	116.6	118.2	119.5	121.1	122.7	123.9
75°	90.1	90.1	90.9	91.3	93.4	95.4	95.0	95.8	97.4	99.1	99.9
77.5°	69.7	68.9	69.7	70.1	70.9	72.6	73.0	74.2	76.2	75.8	76.6
80°	50.1	48.9	50.1	50.6	50.6	52.6	52.6	53.4	54.6	53.4	54.6
82.5°	32.2	31.8	32.6	32.6	33.4	33.0	33.8	33.8	35.1	34.7	35.1
85°	17.9	17.5	17.9	17.5	17.9	18.3	18.3	17.9	17.9	18.8	17.5
87.5°	6.9	6.5	6.1	6.1	5.7	5.3	4.9	4.9	4.9	4.1	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P333762

CATALOG NUMBER: SA2XXDP-C675D930-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1060.8	1060.8	1060.8	1060.8
2.5°	1006.6	1005.8	1005.8	1002.1
5°	943.8	942.6	940.6	942.6
7.5°	884.3	879.0	878.2	874.1
10°	817.8	814.6	814.2	806.4
12.5°	767.3	758.3	760.4	756.7
15°	707.4	707.4	705.7	698.8
17.5°	664.5	664.1	660.5	662.9
20°	627.0	624.6	619.7	619.7
22.5°	591.6	592.0	586.7	588.7
25°	565.5	562.2	559.8	561.0
27.5°	538.6	537.3	536.9	533.3
30°	515.7	511.7	512.5	510.4
32.5°	489.6	488.8	487.6	486.0
35°	466.4	466.8	464.8	465.6
37.5°	445.6	447.2	446.0	446.0
40°	425.2	425.2	425.2	426.4
42.5°	405.7	404.8	404.0	403.6
45°	382.8	384.0	384.5	382.4
47.5°	362.8	363.3	362.8	365.3
50°	341.6	340.8	341.6	340.8
52.5°	319.2	319.6	318.8	318.8
55°	295.6	296.4	296.0	296.0
57.5°	271.5	271.9	272.7	270.7
60°	246.2	248.3	247.9	247.1
62.5°	223.0	223.4	223.4	223.4
65°	199.0	199.8	198.5	199.8
67.5°	172.9	173.3	174.1	174.5
70°	148.8	148.4	149.6	150.8
72.5°	123.5	124.8	123.9	124.8
75°	99.1	100.3	99.9	101.1
77.5°	75.8	76.2	76.2	76.6
80°	54.6	53.8	53.0	54.6
82.5°	33.8	34.7	33.8	33.4
85°	17.5	17.1	16.3	16.3
87.5°	4.1	3.7	3.7	3.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)