

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: P332666-935

Luminaire Tested: **SA4XXDIP-C1020D1205U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332666-935  
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-C1020D1205U935-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7330.3 lumens  
Efficiency: N/A  
Efficacy: 112.1 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: General Diffuse

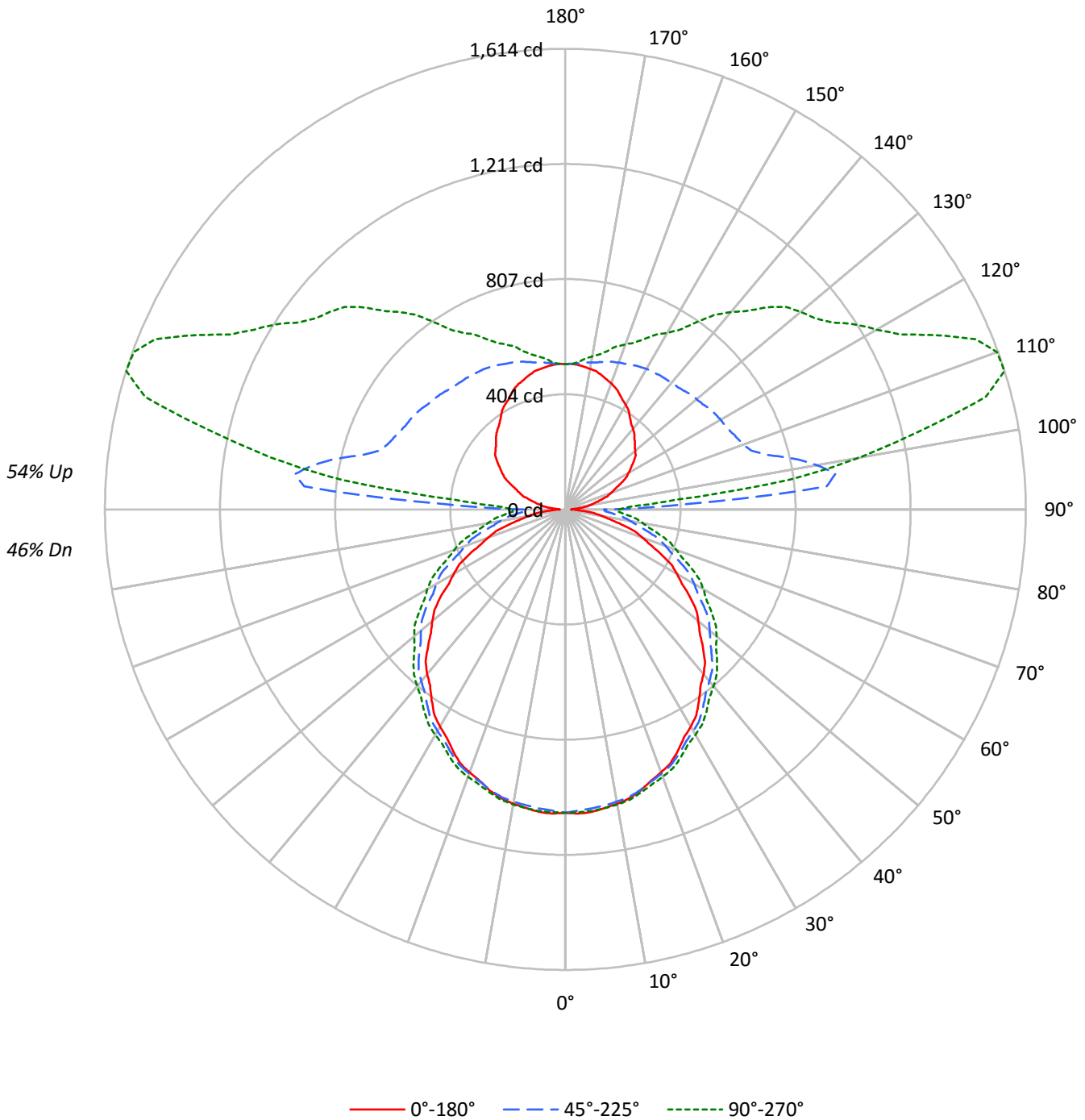
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46		
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	43	42	37		
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30		
3	79	69	62	55	72	64	57	51	53	48	44	43	39	36	34	31	29	25		
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21		
5	66	54	46	40	60	50	42	37	42	36	32	34	30	27	27	24	21	18		
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	24	21	19	16		
7	56	44	35	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14		
8	52	39	32	26	47	36	29	25	31	25	21	25	21	18	20	17	15	12		
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11		
10	45	33	26	21	41	31	24	19	26	21	17	22	17	14	17	14	12	10		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8582	8582	8582
5°	8608	8387	8412
10°	8556	8250	8244
15°	8479	8091	8047
20°	8364	7916	7856
25°	8233	7719	7645
30°	8093	7524	7428
35°	7933	7324	7239
40°	7804	7134	7041
45°	7615	6958	6871
50°	7455	6755	6692
55°	7289	6565	6482
60°	7031	6322	6290
65°	6747	6061	6055
70°	6405	5763	5780
75°	5924	5435	5533
80°	5397	5119	5288
85°	4721	4842	5146



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.7	1.4
10°-20°	288.4	3.9
20°-30°	436.1	5.9
30°-40°	527.7	7.2
40°-50°	557.9	7.6
50°-60°	525.0	7.2
60°-70°	435.6	5.9
70°-80°	306.0	4.2
80°-90°	175.8	2.4
90°-100°	470.5	6.4
100°-110°	841.6	11.5
110°-120°	736.7	10.1
120°-130°	605.6	8.3
130°-140°	493.3	6.7
140°-150°	369.9	5.0
150°-160°	258.3	3.5
160°-170°	151.9	2.1
170°-180°	49.4	0.7
0°-30°	825.2	11.3
0°-40°	1352.9	18.5
0°-60°	2435.8	33.2
0°-90°	3353.1	45.7
90°-120°	2048.8	27.9
90°-150°	3517.6	48.0
90°-180°	3977.0	54.3
0°-180°	7330.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1064	1060	1052	1061	1061	101
15°	1020	1021	1018	1028	1027	287
25°	933	940	944	956	958	430
35°	817	831	843	859	863	511
45°	681	704	726	746	752	526
55°	533	559	594	617	625	475
65°	369	407	448	476	487	366
75°	205	249	299	331	343	218
85°	63	113	167	201	214	67
90°	20	75	136	171	183	14
95°	48	159	919	538	390	49
105°	128	205	735	1520	1526	137
115°	213	278	641	1206	1442	212
125°	292	346	616	1012	1142	260
135°	344	409	588	878	1001	266
145°	394	450	574	723	799	248
155°	447	483	558	632	659	206
165°	487	502	535	567	575	138
175°	508	509	513	520	518	48
180°	509	509	509	509	509	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1066.9	1066.3	1065.6	1065.0	1064.3	1063.2	1061.4	1059.8	1058.1	1056.4	1057.8
5°	1064.2	1063.4	1062.6	1061.9	1061.1	1059.7	1057.9	1056.0	1054.2	1052.3	1054.5
7.5°	1055.2	1054.7	1054.2	1053.8	1053.3	1052.3	1050.8	1049.2	1047.7	1046.1	1048.5
10°	1047.6	1047.3	1047.1	1046.8	1046.5	1045.7	1044.4	1043.1	1041.7	1040.4	1042.8
12.5°	1037.1	1037.1	1037.0	1036.9	1036.9	1036.4	1035.5	1034.6	1033.7	1032.8	1035.0
15°	1020.2	1020.5	1020.7	1021.0	1021.2	1021.0	1020.2	1019.4	1018.6	1017.8	1020.2
17.5°	997.1	997.9	998.7	999.4	1000.3	1000.6	1000.4	1000.3	1000.1	1000.0	1002.4
20°	980.9	981.7	982.5	983.3	984.1	984.6	984.9	985.2	985.4	985.7	988.3
22.5°	962.8	963.8	964.8	965.9	966.8	967.6	968.0	968.5	969.0	969.5	972.2
25°	933.3	934.9	936.4	938.1	939.6	940.8	941.6	942.5	943.2	944.0	946.9
27.5°	900.4	902.8	905.1	907.4	909.7	911.5	912.7	914.0	915.2	916.4	919.1
30°	878.6	880.6	882.8	884.8	887.0	889.0	890.8	892.7	894.5	896.4	899.3
32.5°	854.7	857.3	859.8	862.4	864.9	867.2	869.3	871.3	873.4	875.5	878.7
35°	816.7	819.8	822.9	826.1	829.3	832.2	834.9	837.5	840.2	842.8	846.5
37.5°	778.3	782.0	785.6	789.3	792.9	796.3	799.6	802.9	806.2	809.5	813.2
40°	753.5	757.0	760.4	763.9	767.3	770.9	774.6	778.3	782.0	785.7	789.6
42.5°	725.0	728.8	732.7	736.6	740.4	744.5	748.8	753.2	757.5	761.9	766.3
45°	680.9	686.0	691.0	696.0	701.0	706.0	711.1	716.1	721.1	726.2	730.6
47.5°	638.8	643.9	649.1	654.4	659.5	665.0	670.8	676.7	682.5	688.3	692.9
50°	608.3	614.2	619.9	625.8	631.5	637.4	643.3	649.0	654.9	660.6	666.0
52.5°	577.8	583.7	589.4	595.3	601.2	607.3	614.0	620.7	627.3	634.0	639.3
55°	533.3	538.9	544.4	550.0	555.5	562.2	570.2	578.2	586.1	594.0	599.3
57.5°	483.5	490.4	497.3	504.2	511.1	518.4	526.3	534.3	542.1	550.0	556.3
60°	451.2	458.1	464.9	471.8	478.7	486.5	495.2	503.9	512.6	521.4	527.4
62.5°	419.7	427.2	434.8	442.3	449.8	457.9	466.7	475.4	484.1	492.8	498.9
65°	369.0	377.5	386.0	394.4	402.9	411.6	420.6	429.6	438.6	447.6	454.2
67.5°	320.2	329.2	338.2	347.2	356.2	365.5	375.1	384.8	394.4	404.1	410.8
70°	286.9	295.9	304.9	313.8	322.9	332.4	342.4	352.5	362.6	372.6	379.8
72.5°	254.5	263.7	272.9	282.1	291.4	301.3	311.9	322.6	333.4	344.1	350.9
75°	204.7	214.6	224.3	234.1	243.9	254.3	265.4	276.6	287.7	298.8	306.2
77.5°	158.3	168.7	179.1	189.4	199.8	210.8	222.5	234.1	245.7	257.4	264.8
80°	129.8	140.3	150.9	161.5	172.1	183.2	194.8	206.5	218.1	229.7	237.7
82.5°	101.2	112.2	123.2	134.2	145.2	156.5	168.2	179.8	191.5	203.1	211.2
85°	63.1	74.2	85.3	96.4	107.5	119.1	131.0	142.8	154.7	166.7	174.6
87.5°	35.5	46.7	58.0	69.1	80.0	91.2	104.0	115.5	127.6	139.6	147.1
90°	20.1	32.6	46.2	57.8	69.4	80.3	97.7	109.1	122.5	135.9	142.5
92.5°	29.5	44.3	63.1	84.9	109.0	140.3	202.5	291.4	378.5	429.5	383.9
95°	48.5	60.2	79.0	100.7	133.5	185.2	283.1	458.1	708.0	918.9	949.1
97.5°	73.3	80.8	96.9	116.4	144.6	188.9	266.7	412.8	661.3	955.0	1156.4
100°	89.1	96.0	109.9	128.8	154.6	195.3	264.6	388.0	602.4	894.8	1158.1
102.5°	105.1	112.8	125.0	142.2	166.5	205.0	268.5	378.1	561.8	822.1	1093.1
105°	127.8	136.0	146.4	163.7	186.9	223.5	281.3	374.1	524.0	734.9	976.6
107.5°	155.2	161.5	170.8	188.0	209.5	245.0	298.3	383.1	512.0	683.1	881.6
110°	172.6	178.3	187.0	202.7	224.5	258.0	311.2	390.5	509.8	664.2	833.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	189.2	194.5	203.6	218.1	239.4	272.5	323.7	398.6	510.3	652.2	803.5
115°	213.3	218.6	228.0	240.4	261.7	294.2	342.7	411.2	512.7	641.3	773.1
117.5°	239.4	243.7	251.2	263.7	282.9	315.6	361.5	424.6	515.9	633.1	755.3
120°	256.1	258.9	266.7	278.4	296.3	328.5	374.2	433.9	518.6	628.4	744.7
122.5°	272.1	274.2	281.4	291.8	310.6	341.5	386.7	442.8	521.5	622.8	733.5
125°	291.9	295.7	301.4	312.1	330.9	362.1	404.7	457.3	526.9	615.6	716.7
127.5°	310.3	313.2	320.1	332.5	352.1	382.6	422.6	469.8	529.9	606.2	695.1
130°	319.7	323.5	331.2	345.9	364.7	395.7	433.9	477.2	532.4	600.7	681.5
132.5°	330.1	333.0	343.2	357.1	377.5	406.5	443.8	485.4	535.1	596.1	669.5
135°	343.5	347.6	357.6	374.5	395.5	422.5	457.4	495.2	538.1	588.0	650.2
137.5°	358.2	361.7	372.5	388.4	409.9	435.1	466.7	501.3	538.6	582.3	634.0
140°	368.6	371.3	382.0	398.8	419.6	443.5	473.8	506.1	540.4	578.7	625.1
142.5°	378.8	381.8	391.9	408.0	428.3	451.3	480.4	509.8	542.1	576.8	618.0
145°	394.3	397.1	406.8	420.6	439.4	461.2	487.2	514.3	543.3	574.3	607.9
147.5°	412.2	412.9	421.5	435.6	451.2	470.8	495.2	518.8	544.2	570.7	599.1
150°	423.4	424.1	431.9	443.6	458.3	477.3	499.2	521.2	544.2	568.3	593.3
152.5°	432.8	433.0	440.9	452.1	465.5	482.8	502.5	522.9	542.7	564.3	586.9
155°	447.2	448.2	454.2	464.3	475.3	490.3	507.2	524.3	540.3	558.3	577.3
157.5°	461.4	461.4	467.0	474.8	484.4	496.3	510.7	524.3	537.7	552.1	567.5
160°	470.2	470.2	474.2	481.2	489.2	500.2	512.2	524.3	535.3	547.3	560.3
162.5°	478.2	477.4	480.6	486.8	494.0	502.7	513.8	524.3	532.9	542.4	553.9
165°	487.2	487.2	489.2	494.2	499.2	505.2	514.3	522.3	528.2	535.3	543.3
167.5°	496.3	495.2	496.3	500.1	502.8	507.5	514.0	519.9	523.5	528.1	533.6
170°	500.2	499.2	500.2	503.3	505.2	508.2	513.2	518.2	520.2	523.2	527.3
172.5°	504.2	503.3	503.4	505.7	506.9	509.0	512.5	516.7	517.0	518.4	521.7
175°	508.2	507.2	507.2	508.2	509.3	509.3	511.3	514.3	513.2	513.2	515.2
177.5°	510.1	509.3	508.4	509.3	509.3	509.3	510.1	511.6	510.1	510.1	510.8
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1059.4	1060.8	1062.3	1062.9	1062.7	1062.5	1062.3	1062.1
5°	1056.5	1058.7	1060.8	1061.7	1061.4	1061.2	1060.9	1060.7
7.5°	1050.9	1053.3	1055.7	1056.7	1056.4	1056.2	1055.9	1055.7
10°	1045.2	1047.6	1050.0	1051.0	1050.8	1050.5	1050.2	1050.0
12.5°	1037.2	1039.3	1041.5	1042.6	1042.5	1042.4	1042.4	1042.3
15°	1022.6	1024.9	1027.3	1028.4	1028.1	1027.9	1027.6	1027.3
17.5°	1004.8	1007.3	1009.7	1010.8	1010.6	1010.4	1010.1	1010.0
20°	990.9	993.6	996.3	997.6	997.6	997.6	997.6	997.6
22.5°	974.7	977.4	980.1	981.6	982.1	982.4	982.8	983.3
25°	949.9	952.7	955.6	957.3	957.5	957.8	958.0	958.3
27.5°	921.8	924.5	927.2	928.7	929.0	929.4	929.6	930.0
30°	902.2	905.1	908.0	909.7	910.2	910.8	911.4	911.9
32.5°	882.1	885.5	888.8	890.7	891.2	891.7	892.3	892.9
35°	850.2	853.9	857.6	859.9	860.7	861.4	862.3	863.1
37.5°	817.0	820.8	824.5	826.8	827.7	828.5	829.3	830.2
40°	793.6	797.5	801.6	804.1	805.1	806.2	807.3	808.3
42.5°	770.7	775.1	779.5	782.0	782.9	783.8	784.6	785.4
45°	735.1	739.7	744.2	747.1	748.4	749.7	751.1	752.3
47.5°	697.6	702.2	707.0	710.1	711.6	713.3	714.8	716.4
50°	671.2	676.6	681.8	685.3	686.9	688.5	690.0	691.6
52.5°	644.6	649.9	655.2	658.6	660.2	661.8	663.4	665.0
55°	604.6	609.9	615.2	618.6	620.2	621.8	623.4	625.0
57.5°	562.6	568.9	575.1	579.0	580.5	582.0	583.5	585.0
60°	533.6	539.7	545.7	549.8	552.0	554.1	556.2	558.3
62.5°	505.0	511.1	517.2	521.2	523.4	525.5	527.6	529.8
65°	460.8	467.4	474.1	478.5	480.5	482.7	484.7	486.9
67.5°	417.5	424.2	430.9	435.3	437.4	439.5	441.5	443.6
70°	386.8	394.0	401.1	405.7	407.5	409.4	411.2	413.1
72.5°	357.9	364.8	371.8	376.3	378.3	380.4	382.5	384.5
75°	313.6	321.0	328.4	333.3	335.7	338.1	340.4	342.9
77.5°	272.4	279.9	287.4	292.5	295.0	297.6	300.1	302.6
80°	245.6	253.6	261.5	266.5	268.6	270.8	272.9	275.0
82.5°	219.4	227.6	235.7	240.9	243.2	245.6	247.9	250.2
85°	182.5	190.5	198.4	203.7	206.4	209.0	211.6	214.3
87.5°	154.9	162.7	170.7	175.6	178.1	180.7	182.8	185.1
90°	151.2	159.9	168.6	173.4	176.6	179.7	180.8	182.9
92.5°	323.6	282.4	259.6	244.4	234.7	231.4	230.1	232.3
95°	859.2	711.3	584.4	492.1	445.4	416.8	401.1	390.5
97.5°	1205.4	1154.7	1063.8	963.9	894.3	836.4	808.7	790.1
100°	1311.3	1338.5	1296.6	1227.1	1141.9	1082.7	1054.6	1048.4
102.5°	1300.5	1406.7	1427.9	1401.5	1350.2	1308.0	1278.5	1274.1
105°	1212.4	1392.1	1497.7	1543.1	1547.2	1541.3	1529.4	1525.5
107.5°	1091.0	1281.8	1427.7	1521.2	1572.5	1597.2	1609.1	1613.7
110°	1017.4	1196.6	1347.8	1462.0	1535.1	1579.2	1599.4	1610.5





TEST NUMBER: P332666-935

CATALOG NUMBER: SA4XXDIP-C1020D1205U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	961.8	1120.8	1263.8	1377.8	1460.5	1513.5	1540.8	1557.5
115°	904.0	1032.9	1155.7	1255.6	1336.5	1398.4	1432.3	1442.1
117.5°	871.4	978.8	1076.3	1161.6	1231.1	1283.7	1318.2	1326.5
120°	855.0	953.4	1038.7	1113.4	1172.6	1218.7	1246.8	1260.0
122.5°	840.7	935.8	1013.9	1079.7	1129.9	1169.4	1193.3	1206.2
125°	817.8	908.8	982.9	1041.2	1082.8	1113.4	1134.0	1141.6
127.5°	790.1	877.1	950.6	1006.2	1048.2	1075.8	1093.6	1101.4
130°	769.3	853.1	925.9	982.1	1024.7	1051.3	1068.9	1076.5
132.5°	748.3	827.1	898.0	954.2	995.9	1025.7	1042.5	1050.2
135°	717.6	786.8	852.0	905.0	946.6	976.2	993.8	1001.3
137.5°	690.3	749.2	804.4	852.3	891.0	920.0	934.4	943.1
140°	674.6	725.0	773.5	817.9	854.3	877.6	892.9	902.2
142.5°	660.6	705.1	746.7	785.1	817.3	838.8	852.3	859.0
145°	641.4	677.1	708.7	738.0	764.1	782.1	793.2	799.3
147.5°	625.7	653.0	677.2	699.7	718.9	734.4	742.9	745.5
150°	617.3	640.3	660.3	678.3	694.3	707.3	713.3	714.4
152.5°	608.5	628.3	646.7	661.5	675.1	685.7	689.3	690.3
155°	595.3	611.3	626.3	638.3	648.3	656.3	659.4	659.4
157.5°	581.1	594.5	607.1	616.7	624.3	630.3	632.1	632.1
160°	572.3	583.2	594.3	602.3	608.3	614.3	615.3	615.3
162.5°	563.4	572.9	581.5	588.7	593.1	599.1	600.1	599.3
165°	551.3	557.2	564.3	569.3	573.3	577.3	576.3	575.3
167.5°	539.5	544.1	549.7	552.7	554.7	557.2	557.1	556.3
170°	532.3	535.3	539.2	542.3	544.2	545.3	544.2	544.2
172.5°	525.8	528.1	530.5	532.6	533.8	534.9	533.8	532.3
175°	517.3	518.2	520.2	520.2	520.2	522.3	520.2	518.2
177.5°	511.6	512.5	512.5	513.2	512.5	513.2	511.6	510.1
180°	509.3	509.3	509.3	509.3	509.3	509.3	509.3	509.3

(END OF REPORT)