

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: P332630-935

Luminaire Tested: **SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332630-935  
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-C1020D365U935-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

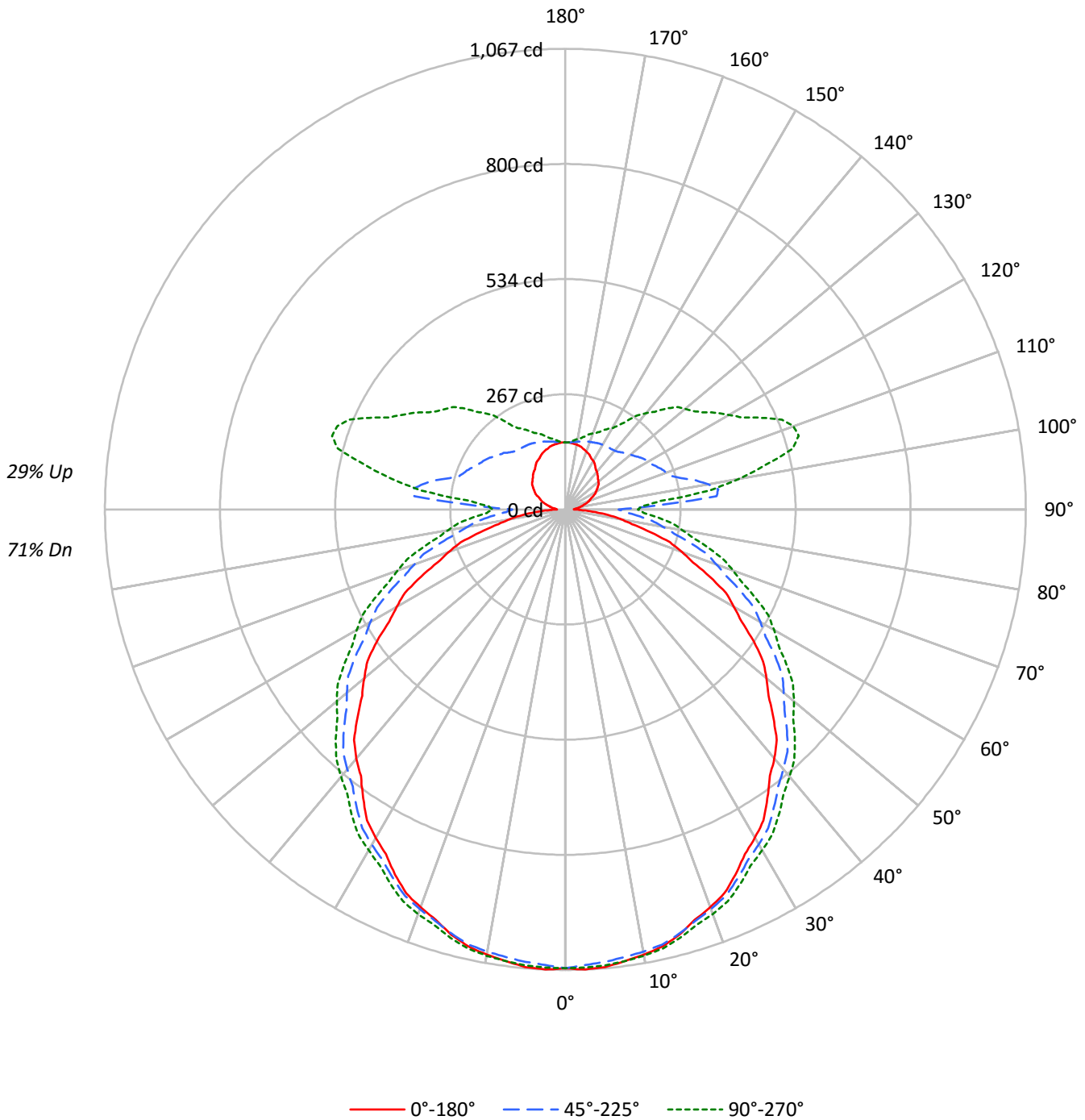
Lumens per Lamp: N/A  
Luminaire Lumens: 4751.1 lumens  
Efficiency: N/A  
Efficacy: 109.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 43.5  
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



TEST NUMBER: P332630-935  
CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	71				
1	101	96	91	87	95	91	87	83	81	78	75	72	70	68	64	62	61	56				
2	91	83	76	70	86	79	72	67	70	65	61	63	59	55	56	53	50	46				
3	83	72	64	58	78	69	61	55	61	56	51	55	50	46	49	45	42	38				
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	32				
5	69	57	48	41	65	54	46	40	49	42	37	43	38	34	39	34	31	28				
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	24				
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	27	24	21				
8	55	42	33	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19				
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17				
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15				

**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



TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.7	2.1
10°-20°	288.4	6.1
20°-30°	436.1	9.2
30°-40°	527.7	11.1
40°-50°	557.9	11.7
50°-60°	525.0	11.1
60°-70°	435.6	9.2
70°-80°	306.0	6.4
80°-90°	173.8	3.7
90°-100°	214.6	4.5
100°-110°	308.9	6.5
110°-120°	259.6	5.5
120°-130°	204.2	4.3
130°-140°	158.7	3.3
140°-150°	114.3	2.4
150°-160°	78.6	1.7
160°-170°	46.2	1.0
170°-180°	15.0	0.3
0°-30°	825.2	17.4
0°-40°	1352.9	28.5
0°-60°	2435.8	51.3
0°-90°	3351.1	70.5
90°-120°	783.0	16.5
90°-150°	1260.2	26.5
90°-180°	1400.0	29.5
0°-180°	4751.1	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°	19	69	123	157	168	13
95°	26	87	352	257	221	24
105°	46	87	278	537	546	50
115°	70	98	234	423	502	70
125°	92	109	210	346	391	82
135°	106	126	186	287	330	82
145°	121	137	175	225	251	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	



TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**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°	35.3	46.2	57.2	68.0	78.9	90.1	102.0	113.7	125.4	137.1	144.6
90°	19.4	30.6	42.0	53.0	63.8	74.8	88.0	99.4	111.3	123.3	130.7
92.5°	21.5	32.6	45.0	58.3	72.2	89.0	115.9	150.8	185.2	208.6	200.0
95°	25.5	35.1	46.9	59.6	75.7	98.2	135.5	196.3	279.8	351.5	365.8
97.5°	32.0	39.6	49.7	60.9	74.6	94.5	125.6	177.5	260.6	357.4	423.5
100°	36.2	43.1	52.1	62.6	75.3	93.6	121.9	166.6	239.0	335.1	420.2
102.5°	41.1	47.6	55.5	65.0	76.5	93.8	120.2	160.6	223.5	309.7	396.9
105°	46.3	52.5	59.3	68.3	79.0	95.4	119.8	154.8	207.2	278.2	356.3
107.5°	54.5	59.4	65.3	73.5	83.1	98.6	121.2	153.5	199.1	257.6	322.5
110°	59.2	63.5	68.6	76.0	85.2	99.9	122.5	153.1	195.9	249.3	304.9



TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.5	67.4	72.5	79.1	87.9	102.2	123.9	152.8	193.0	242.3	292.4
115°	69.8	73.1	77.7	83.1	91.2	104.9	125.5	152.2	189.0	233.9	278.1
117.5°	77.7	79.9	83.3	88.0	94.9	108.1	127.4	152.1	185.4	226.5	267.5
120°	82.1	83.4	86.4	90.5	96.4	109.2	128.5	152.0	183.0	221.8	260.8
122.5°	86.9	87.6	90.0	93.2	99.0	111.0	129.8	152.0	180.9	216.7	254.1
125°	92.1	93.1	94.6	97.7	103.2	114.9	132.5	153.1	178.8	210.4	244.7
127.5°	97.6	98.2	100.1	103.8	109.5	120.5	136.1	154.0	175.9	202.6	233.0
130°	99.7	100.7	102.9	107.2	112.7	123.5	138.0	154.1	173.9	197.6	225.5
132.5°	102.9	103.6	106.5	110.6	116.6	126.5	140.2	155.2	172.6	193.6	219.0
135°	106.2	107.4	110.4	115.5	122.0	130.8	142.7	155.5	169.9	186.3	208.2
137.5°	110.6	111.5	114.6	119.2	125.6	133.5	143.7	154.9	166.9	180.7	199.1
140°	113.7	114.4	117.5	122.4	128.5	135.9	145.3	155.2	165.8	177.6	194.2
142.5°	116.2	117.1	120.1	125.0	131.1	138.0	146.8	155.6	165.3	175.7	190.4
145°	120.8	121.4	124.2	128.2	133.7	140.3	148.2	156.4	165.2	174.7	186.0
147.5°	126.2	126.2	128.6	132.8	137.3	143.2	150.6	157.8	165.6	173.6	182.4
150°	129.6	129.7	131.8	135.2	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



TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**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°	152.4	160.1	167.8	172.9	175.2	177.6	179.9	182.2
90°	138.7	146.6	154.6	159.5	162.0	164.4	166.2	168.3
92.5°	186.8	179.5	177.8	176.5	175.0	175.5	176.5	178.7
95°	343.4	303.3	269.7	245.0	232.4	225.3	222.2	220.7
97.5°	443.2	432.6	409.7	382.6	363.0	347.0	340.1	336.0
100°	471.7	485.0	477.2	459.2	434.5	417.8	410.6	410.0
102.5°	464.9	502.0	513.2	508.3	494.1	482.8	475.2	475.4
105°	432.7	491.9	528.6	545.4	548.2	547.9	545.7	546.0
107.5°	390.7	453.3	502.2	533.6	550.5	559.4	564.3	567.0
110°	365.2	423.9	474.1	511.7	535.4	550.3	557.8	562.7





TEST NUMBER: P332630-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	344.7	397.1	444.6	482.1	508.8	526.3	536.1	542.7
115°	322.0	365.2	406.7	439.7	465.6	485.7	497.3	501.6
117.5°	306.7	343.1	376.6	405.2	427.8	445.3	457.3	461.2
120°	298.1	331.7	361.3	386.6	406.0	421.5	431.6	437.0
122.5°	290.4	323.0	350.4	373.0	389.5	402.9	411.5	416.7
125°	278.9	310.1	336.1	356.2	370.0	380.3	387.7	391.2
127.5°	265.2	294.9	320.6	339.8	353.8	363.5	370.1	373.8
130°	255.5	284.3	309.8	329.1	343.1	352.3	358.8	362.2
132.5°	246.2	273.3	298.1	317.3	331.1	341.2	347.5	350.9
135°	231.6	255.6	278.4	296.5	310.3	320.4	326.8	330.3
137.5°	219.0	239.5	259.1	275.4	288.1	297.8	303.2	306.7
140°	211.6	229.4	246.5	261.7	273.6	281.6	287.2	291.0
142.5°	205.4	221.1	235.8	249.0	259.5	266.8	271.7	274.6
145°	197.3	209.2	220.0	229.8	238.5	244.7	248.8	251.4
147.5°	190.6	199.1	206.6	213.8	220.2	225.5	228.7	230.1
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)