

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: P332647-930

Luminaire Tested: **SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332647-930
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-C1020D810U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

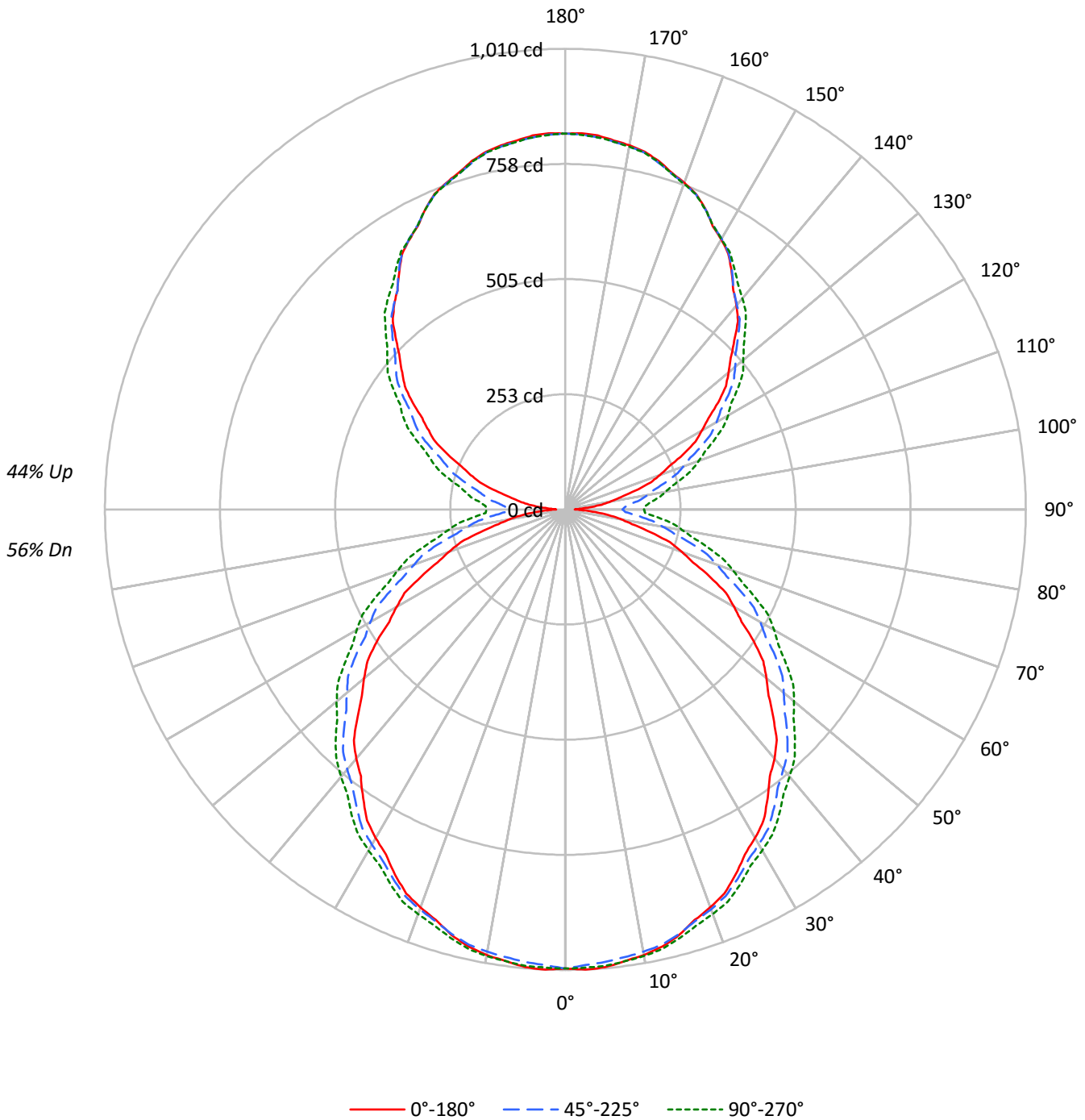
Lumens per Lamp: N/A
Luminaire Lumens: 5720.5 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 54.4
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



TEST NUMBER: P332647-930
CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									20
RC	80									50									30									10									0									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0													
RCR	0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	56	56	56	56	56	56	56	56	56	56	56	56	56	56														
	1	98	93	89	85	91	86	83	79	74	71	69	63	61	59	52	51	49	44	44	44	44	44	44	44	44	44	44	44	44	44	44														
	2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36													
	3	81	70	63	56	74	66	59	53	56	51	46	48	44	40	40	37	34	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30													
	4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26													
	5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22												
	6	62	49	41	35	57	46	38	33	40	34	29	34	29	26	29	25	22	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19												
	7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17												
	8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15												
	9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	16	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13											
	10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12											

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	1.7
10°-20°	273.1	4.8
20°-30°	413.0	7.2
30°-40°	499.7	8.7
40°-50°	528.2	9.2
50°-60°	497.1	8.7
60°-70°	412.5	7.2
70°-80°	289.7	5.1
80°-90°	166.3	2.9
90°-100°	151.6	2.7
100°-110°	233.0	4.1
110°-120°	321.6	5.6
120°-130°	387.6	6.8
130°-140°	416.5	7.3
140°-150°	400.1	7.0
150°-160°	334.5	5.8
160°-170°	222.6	3.9
170°-180°	77.9	1.4
0°-30°	781.4	13.7
0°-40°	1281.1	22.4
0°-60°	2306.5	40.3
0°-90°	3174.9	55.5
90°-120°	706.3	12.3
90°-150°	1910.5	33.4
90°-180°	2546.0	44.5
0°-180°	5720.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	20	72	126	161	172	14
95°	53	96	146	178	189	54
105°	159	183	226	255	267	169
115°	285	296	330	353	361	281
125°	409	410	436	455	461	365
135°	524	528	536	552	558	406
145°	635	637	637	643	646	398
155°	727	727	726	728	726	334
165°	791	789	788	791	789	223
175°	823	820	819	823	819	78
180°	824	824	824	824	824	



TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.8	44.3	54.8	65.3	75.9	86.7	97.9	109.2	120.3	131.5	139.0
90°	20.0	31.6	43.1	54.7	66.3	78.0	89.9	101.8	113.7	125.6	133.7
92.5°	30.7	41.6	52.3	63.2	73.9	85.2	96.7	108.3	119.8	131.4	139.0
95°	52.9	62.5	72.0	81.5	91.1	101.4	112.8	124.0	135.3	146.5	153.7
97.5°	80.1	88.2	96.4	104.5	112.7	122.4	133.7	145.0	156.4	167.7	174.8
100°	101.7	108.7	115.8	122.9	130.0	139.0	150.1	161.1	172.1	183.2	190.2
102.5°	125.1	131.0	137.0	142.9	148.9	157.2	167.9	178.6	189.4	200.1	207.1
105°	158.7	163.8	168.9	174.1	179.3	186.8	196.6	206.4	216.3	226.1	232.8
107.5°	196.0	200.3	204.6	208.9	213.1	219.7	228.5	237.4	246.3	255.1	261.7
110°	220.6	224.5	228.2	232.0	235.8	242.0	250.6	259.3	267.9	276.5	282.0



TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	246.2	249.4	252.6	255.8	258.9	264.6	272.6	280.8	288.9	297.0	302.5
115°	284.7	286.9	289.2	291.5	293.7	298.6	306.4	314.1	321.9	329.6	335.0
117.5°	321.9	323.3	324.8	326.3	327.8	332.2	339.4	346.7	353.9	361.2	365.9
120°	346.0	347.3	348.6	349.9	351.3	355.4	362.2	369.0	375.9	382.7	387.0
122.5°	372.0	372.3	372.8	373.2	373.5	377.1	383.7	390.4	397.1	403.7	408.2
125°	409.3	409.0	408.8	408.5	408.2	411.2	417.3	423.5	429.6	435.7	440.2
127.5°	443.8	444.0	444.2	444.3	444.5	446.9	451.5	456.1	460.6	465.2	469.4
130°	467.4	467.6	467.7	467.9	468.1	470.2	474.2	478.2	482.2	486.2	490.5
132.5°	492.4	492.4	492.5	492.6	492.6	494.2	497.3	500.4	503.4	506.5	510.6
135°	524.2	525.1	525.9	526.8	527.7	529.0	530.8	532.5	534.3	536.0	539.7
137.5°	560.2	560.4	560.5	560.7	560.8	561.4	562.5	563.6	564.7	565.7	569.0
140°	584.2	584.2	584.2	584.3	584.3	584.5	584.7	585.0	585.2	585.5	588.6
142.5°	605.2	605.4	605.7	605.9	606.2	606.1	605.8	605.6	605.4	605.1	607.9
145°	635.4	635.6	635.9	636.3	636.6	636.8	637.0	637.1	637.2	637.4	638.8
147.5°	665.4	665.9	666.3	666.7	667.2	667.3	667.2	667.1	666.9	666.8	666.9
150°	683.8	684.1	684.4	684.7	685.0	685.2	685.2	685.2	685.2	685.2	685.2
152.5°	700.2	700.5	700.7	701.1	701.4	701.6	701.6	701.8	701.9	702.1	702.4
155°	726.6	726.6	726.6	726.6	726.6	726.5	726.4	726.3	726.1	726.0	726.5
157.5°	749.1	748.8	748.5	748.3	748.0	747.9	747.9	747.9	747.8	747.8	748.2
160°	762.3	762.1	762.1	761.9	761.7	761.6	761.5	761.3	761.2	761.1	761.5
162.5°	774.5	774.2	773.8	773.5	773.1	772.8	772.7	772.6	772.4	772.3	773.1
165°	791.0	790.6	790.2	789.7	789.3	789.0	788.6	788.4	788.1	787.8	788.6
167.5°	803.6	803.0	802.4	801.8	801.3	801.0	801.0	801.0	801.0	801.0	801.9
170°	810.7	810.1	809.3	808.6	808.0	807.6	807.8	808.0	808.0	808.2	809.0
172.5°	815.9	815.3	814.6	814.1	813.5	813.2	813.3	813.3	813.3	813.3	814.2
175°	822.9	822.1	821.4	820.8	820.0	819.6	819.5	819.3	819.2	819.0	820.0
177.5°	825.2	824.6	824.0	823.5	822.9	822.6	822.6	822.6	822.6	822.6	823.4
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1



TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	146.4	153.8	161.3	166.2	168.4	170.6	172.9	175.1
90°	141.9	149.9	158.1	163.3	165.6	167.9	170.2	172.4
92.5°	146.6	154.2	161.8	166.6	168.8	171.0	173.1	175.3
95°	160.9	168.1	175.3	180.0	182.2	184.5	186.8	189.0
97.5°	181.8	188.9	196.0	200.6	202.8	204.9	207.1	209.2
100°	197.3	204.3	211.4	215.8	217.5	219.3	221.0	222.8
102.5°	214.0	220.9	228.0	232.4	234.5	236.6	238.6	240.8
105°	239.5	246.1	252.8	257.4	259.8	262.3	264.7	267.1
107.5°	268.2	274.8	281.4	285.5	287.3	289.1	290.8	292.6
110°	287.5	292.9	298.4	302.4	304.8	307.2	309.7	312.1



TEST NUMBER: P332647-930

CATALOG NUMBER: SA4XXDIP-C1020D810U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.0	313.5	319.0	322.8	324.9	326.9	329.1	331.2
115°	340.3	345.7	351.1	354.6	356.2	357.8	359.4	361.0
117.5°	370.6	375.4	380.1	383.4	385.1	386.8	388.5	390.2
120°	391.3	395.6	399.9	403.2	405.5	407.8	410.1	412.4
122.5°	412.8	417.3	421.8	424.7	426.0	427.3	428.6	429.9
125°	444.6	449.1	453.6	456.4	457.6	458.9	460.1	461.3
127.5°	473.7	477.9	482.2	485.0	486.5	488.0	489.4	490.9
130°	494.6	498.9	503.1	505.7	506.6	507.6	508.5	509.5
132.5°	514.6	518.7	522.7	525.3	526.6	527.9	529.1	530.4
135°	543.5	547.1	550.9	553.3	554.4	555.5	556.5	557.6
137.5°	572.3	575.6	578.9	581.2	582.5	583.9	585.2	586.5
140°	591.7	594.8	597.9	600.1	601.1	602.3	603.4	604.5
142.5°	610.7	613.6	616.4	618.3	619.3	620.4	621.4	622.4
145°	640.1	641.5	642.9	643.8	644.4	645.0	645.6	646.1
147.5°	667.0	667.1	667.2	667.6	668.2	668.9	669.5	670.2
150°	685.2	685.2	685.2	685.1	685.0	684.9	684.7	684.5
152.5°	702.7	703.0	703.4	703.4	703.0	702.6	702.3	701.9
155°	727.1	727.7	728.2	728.2	727.7	727.1	726.5	726.0
157.5°	748.6	749.1	749.5	749.4	749.0	748.5	748.0	747.5
160°	761.9	762.3	762.7	762.6	761.9	761.2	760.5	759.8
162.5°	773.8	774.5	775.3	775.3	774.6	774.0	773.2	772.5
165°	789.5	790.4	791.2	791.3	790.8	790.2	789.6	789.1
167.5°	802.7	803.6	804.5	804.5	803.6	802.7	801.8	801.0
170°	809.9	810.7	811.6	811.5	810.6	809.6	808.5	807.6
172.5°	815.2	816.2	817.2	817.2	816.2	815.1	814.2	813.2
175°	821.0	822.0	823.0	823.0	822.0	821.0	820.0	819.0
177.5°	824.2	825.0	825.8	825.7	824.8	823.9	823.0	822.1
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1

(END OF REPORT)