

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: P332639-927

Luminaire Tested: **SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332639-927
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-C1020D590U927-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

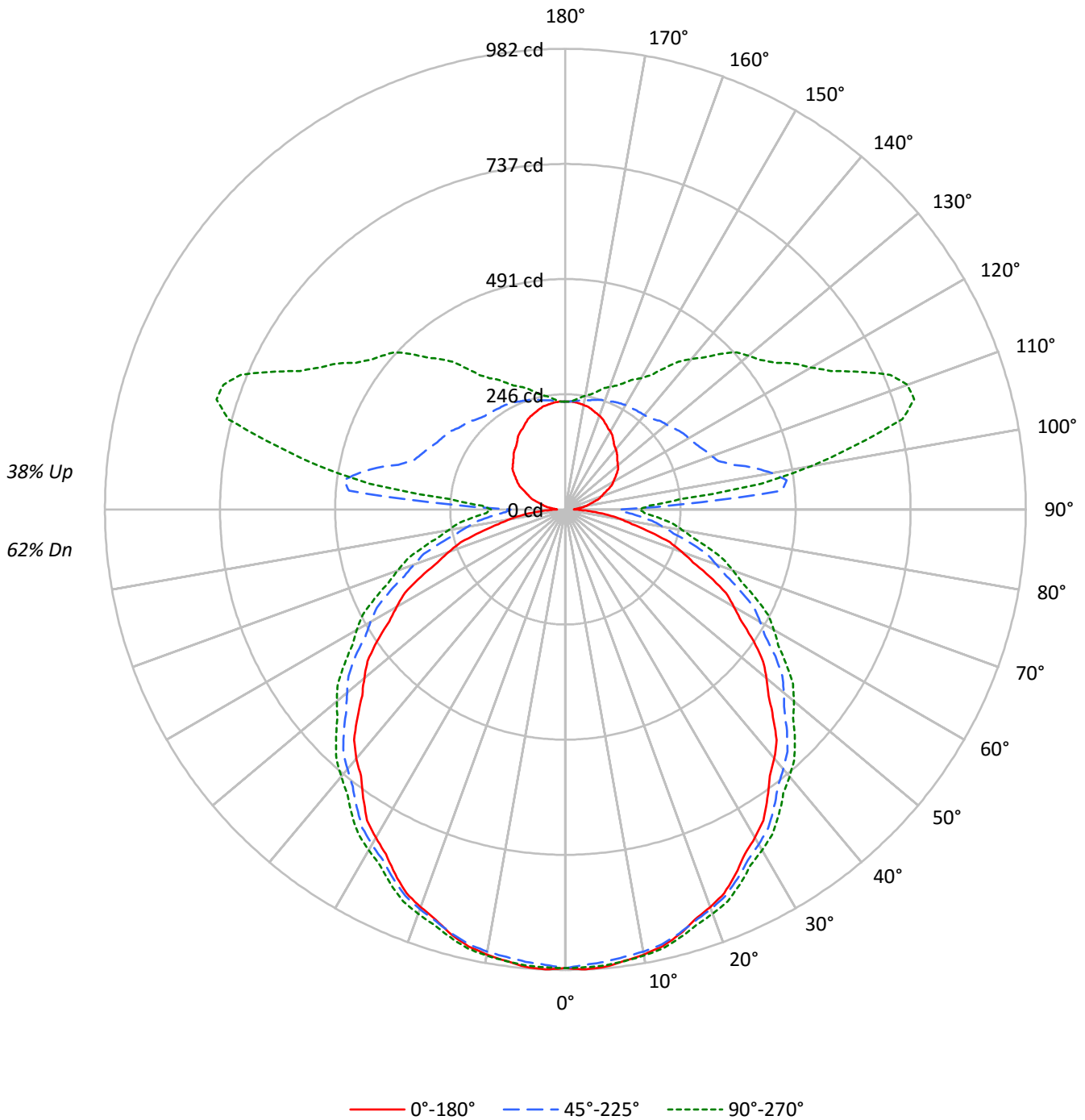
Lumens per Lamp: N/A
Luminaire Lumens: 5008.3 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 48.8
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: P332639-927
CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





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CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-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	0
RCR																		
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54	49
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	49	47	44	40
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37	33
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	28
5	68	56	47	41	63	52	45	39	46	40	35	40	35	31	35	31	27	24
6	63	50	41	35	58	47	39	34	41	35	30	36	31	27	31	27	24	21
7	58	45	37	31	54	42	35	29	38	31	27	33	28	24	28	24	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	32	25	21	29	23	19	26	21	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7896	7896	7896
5°	7920	7717	7739
10°	7872	7591	7585
15°	7802	7444	7404
20°	7695	7284	7227
25°	7575	7102	7034
30°	7445	6922	6835
35°	7299	6739	6660
40°	7181	6564	6478
45°	7007	6402	6322
50°	6859	6215	6158
55°	6707	6040	5964
60°	6469	5816	5788
65°	6208	5578	5571
70°	5894	5303	5319
75°	5453	5001	5089
80°	4964	4711	4865
85°	4347	4456	4735



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CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	1.8
10°-20°	265.4	5.3
20°-30°	401.3	8.0
30°-40°	485.5	9.7
40°-50°	513.3	10.2
50°-60°	483.1	9.6
60°-70°	400.8	8.0
70°-80°	281.5	5.6
80°-90°	160.4	3.2
90°-100°	260.6	5.2
100°-110°	415.7	8.3
110°-120°	356.6	7.1
120°-130°	287.0	5.7
130°-140°	228.7	4.6
140°-150°	168.3	3.4
150°-160°	116.7	2.3
160°-170°	68.6	1.4
170°-180°	22.3	0.4
0°-30°	759.3	15.2
0°-40°	1244.8	24.9
0°-60°	2241.1	44.7
0°-90°	3083.8	61.6
90°-120°	1033.0	20.6
90°-150°	1716.9	34.3
90°-180°	1925.0	38.4
0°-180°	5008.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	979	976	968	976	976	93
15°	939	940	936	946	945	264
25°	859	865	868	880	882	395
35°	751	764	776	790	794	470
45°	626	647	668	686	692	484
55°	491	514	546	568	575	437
65°	340	375	412	438	448	336
75°	188	229	275	304	315	200
85°	58	104	153	185	197	62
90°	18	65	116	148	158	12
95°	29	98	464	306	245	28
105°	63	109	369	737	744	67
115°	100	135	316	583	694	99
125°	134	159	294	483	545	120
135°	156	186	271	410	470	121
145°	179	203	259	330	367	112
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



TEST NUMBER: P332639-927

CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	981.6	981.0	980.4	979.9	979.2	978.2	976.6	975.1	973.5	971.9	973.3
5°	979.1	978.4	977.7	977.0	976.3	975.0	973.4	971.6	969.9	968.2	970.2
7.5°	970.8	970.4	969.9	969.6	969.1	968.2	966.8	965.4	963.9	962.5	964.7
10°	963.8	963.6	963.4	963.1	962.9	962.1	960.9	959.7	958.5	957.3	959.5
12.5°	954.2	954.2	954.1	954.0	954.0	953.5	952.8	951.9	951.1	950.2	952.3
15°	938.7	938.9	939.1	939.4	939.6	939.4	938.7	937.9	937.2	936.4	938.7
17.5°	917.4	918.1	918.9	919.6	920.4	920.6	920.4	920.4	920.2	920.0	922.3
20°	902.5	903.2	904.0	904.7	905.5	905.9	906.2	906.4	906.7	906.9	909.3
22.5°	885.8	886.8	887.7	888.7	889.5	890.3	890.7	891.1	891.5	892.0	894.5
25°	858.7	860.2	861.6	863.1	864.5	865.6	866.3	867.1	867.8	868.5	871.2
27.5°	828.5	830.6	832.7	834.9	837.0	838.7	839.8	840.9	842.0	843.1	845.7
30°	808.3	810.2	812.2	814.1	816.1	817.9	819.6	821.3	823.0	824.7	827.4
32.5°	786.4	788.8	791.1	793.4	795.7	797.9	799.8	801.7	803.6	805.5	808.5
35°	751.4	754.3	757.2	760.1	763.0	765.7	768.2	770.6	773.0	775.5	778.9
37.5°	716.1	719.5	722.8	726.2	729.5	732.7	735.7	738.7	741.8	744.8	748.2
40°	693.3	696.5	699.7	702.8	706.0	709.2	712.6	716.1	719.5	722.9	726.5
42.5°	667.0	670.6	674.1	677.7	681.2	685.0	689.0	693.0	697.0	701.0	705.0
45°	626.5	631.1	635.7	640.4	645.0	649.6	654.3	658.9	663.5	668.1	672.2
47.5°	587.7	592.5	597.2	602.1	606.8	611.9	617.2	622.6	628.0	633.3	637.5
50°	559.7	565.1	570.4	575.8	581.1	586.5	591.8	597.1	602.5	607.8	612.8
52.5°	531.6	537.0	542.3	547.7	553.1	558.8	564.9	571.1	577.2	583.4	588.2
55°	490.7	495.8	500.9	506.0	511.1	517.3	524.7	532.0	539.2	546.5	551.4
57.5°	444.9	451.2	457.6	463.9	470.2	477.0	484.3	491.5	498.8	506.0	511.8
60°	415.1	421.4	427.8	434.1	440.5	447.6	455.7	463.7	471.7	479.7	485.3
62.5°	386.2	393.1	400.1	406.9	413.8	421.3	429.4	437.4	445.4	453.4	459.1
65°	339.5	347.3	355.1	362.9	370.7	378.7	387.0	395.3	403.5	411.9	417.9
67.5°	294.6	302.9	311.2	319.5	327.7	336.3	345.2	354.0	362.9	371.8	378.0
70°	264.0	272.3	280.5	288.8	297.1	305.9	315.1	324.3	333.6	342.9	349.4
72.5°	234.2	242.6	251.1	259.6	268.1	277.2	287.0	296.8	306.7	316.6	322.9
75°	188.4	197.4	206.4	215.4	224.4	234.0	244.2	254.4	264.7	274.9	281.7
77.5°	145.7	155.2	164.8	174.3	183.9	193.9	204.7	215.4	226.1	236.8	243.7
80°	119.4	129.1	138.9	148.6	158.4	168.6	179.3	190.0	200.7	211.4	218.7
82.5°	93.1	103.2	113.4	123.5	133.6	144.0	154.7	165.4	176.2	186.9	194.3
85°	58.1	68.3	78.5	88.7	98.9	109.6	120.5	131.4	142.4	153.4	160.7
87.5°	32.5	42.6	52.8	62.8	72.9	83.2	94.3	105.0	115.9	126.7	133.6
90°	18.0	28.6	39.7	49.9	60.0	70.2	83.3	93.8	105.2	116.5	123.2
92.5°	21.8	32.9	45.9	60.2	75.6	94.6	128.0	173.5	218.2	246.5	229.4
95°	29.2	38.5	51.1	65.0	83.9	111.9	161.1	245.3	363.2	463.6	480.5
97.5°	39.7	46.6	57.4	69.7	86.0	110.3	150.4	221.5	338.7	476.4	570.6
100°	46.4	52.8	62.2	74.0	88.9	111.2	147.4	207.9	309.7	446.6	568.8
102.5°	53.6	59.9	68.2	78.8	92.6	113.8	147.2	201.5	289.1	411.5	537.1
105°	62.7	68.9	76.0	86.3	99.3	119.4	150.1	196.6	268.9	368.8	481.0
107.5°	75.0	79.9	86.1	95.9	107.7	126.8	155.3	198.0	260.5	342.1	434.8
110°	82.4	86.7	92.4	101.2	112.8	130.9	159.3	199.5	257.7	331.8	411.0



TEST NUMBER: P332639-927

CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	89.5	93.4	99.0	107.1	118.3	136.1	163.3	201.3	255.9	324.2	395.2
115°	99.7	103.2	108.5	115.3	126.0	143.2	169.1	204.0	253.8	315.8	378.1
117.5°	111.4	113.9	118.0	124.4	133.7	150.7	175.1	207.2	252.2	308.8	366.5
120°	118.4	120.1	124.0	129.7	138.1	154.6	178.9	209.5	251.3	304.4	359.5
122.5°	125.7	126.7	130.1	134.8	143.4	159.1	182.9	211.6	250.6	299.7	352.2
125°	134.0	135.6	138.1	142.8	151.1	166.8	189.1	215.9	250.6	293.7	341.7
127.5°	142.3	143.5	146.5	151.9	160.7	175.6	196.0	219.8	249.2	286.1	328.4
130°	146.1	147.7	151.0	157.6	165.9	180.9	200.1	221.6	248.6	281.4	320.1
132.5°	150.8	152.0	156.5	162.6	171.7	185.5	204.0	224.3	248.3	277.5	312.8
135°	156.3	158.1	162.6	170.3	179.8	192.4	209.0	227.0	247.2	270.6	300.7
137.5°	162.9	164.4	169.1	176.2	185.8	197.3	212.0	228.0	245.3	265.5	290.7
140°	167.5	168.7	173.4	180.9	190.1	201.0	214.8	229.5	245.1	262.4	285.1
142.5°	171.7	173.1	177.6	184.9	194.0	204.4	217.5	230.7	245.2	260.7	280.7
145°	178.7	179.8	184.1	190.1	198.5	208.3	220.1	232.3	245.4	259.4	275.3
147.5°	186.7	187.0	190.7	196.9	203.8	212.7	223.7	234.3	245.8	257.8	270.7
150°	191.8	192.0	195.4	200.6	207.1	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	195.6	195.7	199.2	204.2	210.2	218.1	227.0	236.1	245.1	254.8	265.1
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	208.4	208.4	211.0	214.4	218.8	224.1	230.7	236.8	242.9	249.4	256.4
160°	212.4	212.4	214.2	217.4	220.9	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.0	215.6	217.1	219.9	223.2	227.0	232.1	236.8	240.7	245.0	250.2
165°	220.1	220.1	220.9	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	224.1	223.7	224.1	225.9	227.1	229.2	232.2	234.8	236.5	238.5	241.1
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.1
172.5°	227.8	227.3	227.4	228.4	228.9	229.9	231.5	233.4	233.5	234.2	235.6
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.4	230.0	229.7	230.0	230.0	230.0	230.4	231.1	230.4	230.4	230.8
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



TEST NUMBER: P332639-927

CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	974.7	976.0	977.4	977.9	977.8	977.6	977.4	977.2
5°	972.1	974.1	976.0	976.8	976.6	976.4	976.1	975.9
7.5°	966.9	969.1	971.3	972.2	972.0	971.8	971.5	971.3
10°	961.6	963.8	966.1	967.0	966.8	966.5	966.3	966.1
12.5°	954.3	956.2	958.2	959.3	959.2	959.1	959.1	959.0
15°	940.9	943.0	945.2	946.2	945.9	945.7	945.5	945.2
17.5°	924.5	926.8	929.0	930.0	929.8	929.6	929.4	929.2
20°	911.7	914.2	916.6	917.8	917.8	917.8	917.8	917.8
22.5°	896.8	899.3	901.7	903.2	903.6	903.9	904.3	904.7
25°	873.9	876.5	879.2	880.7	881.0	881.2	881.5	881.7
27.5°	848.1	850.6	853.1	854.4	854.8	855.1	855.3	855.6
30°	830.1	832.7	835.4	837.0	837.5	838.0	838.5	839.0
32.5°	811.6	814.7	817.8	819.5	820.0	820.5	820.9	821.5
35°	782.3	785.7	789.1	791.2	791.9	792.6	793.4	794.1
37.5°	751.7	755.2	758.6	760.7	761.5	762.3	763.0	763.8
40°	730.2	733.8	737.5	739.8	740.8	741.7	742.8	743.7
42.5°	709.1	713.1	717.2	719.5	720.3	721.1	721.9	722.6
45°	676.4	680.6	684.7	687.4	688.6	689.8	691.0	692.2
47.5°	641.8	646.1	650.5	653.3	654.7	656.2	657.7	659.2
50°	617.6	622.5	627.3	630.5	632.0	633.4	634.9	636.4
52.5°	593.1	597.9	602.9	605.9	607.4	608.9	610.4	611.8
55°	556.3	561.2	566.0	569.2	570.6	572.1	573.5	575.0
57.5°	517.6	523.4	529.2	532.7	534.1	535.5	536.9	538.2
60°	490.9	496.5	502.1	505.9	507.9	509.8	511.7	513.7
62.5°	464.6	470.2	475.9	479.6	481.6	483.5	485.4	487.4
65°	424.0	430.1	436.2	440.2	442.1	444.1	446.0	448.0
67.5°	384.1	390.3	396.5	400.5	402.4	404.3	406.2	408.1
70°	355.9	362.5	369.1	373.3	374.9	376.7	378.3	380.1
72.5°	329.3	335.6	342.1	346.2	348.1	350.0	351.9	353.8
75°	288.5	295.3	302.1	306.7	308.9	311.1	313.2	315.4
77.5°	250.6	257.5	264.4	269.1	271.4	273.8	276.1	278.5
80°	226.0	233.3	240.6	245.2	247.2	249.1	251.0	253.0
82.5°	201.8	209.4	216.8	221.7	223.8	225.9	228.1	230.2
85°	167.9	175.2	182.5	187.4	189.9	192.3	194.7	197.2
87.5°	140.9	148.0	155.1	159.7	161.9	164.2	166.2	168.4
90°	130.7	138.2	145.7	150.2	152.6	155.0	156.5	158.4
92.5°	205.7	190.5	183.8	179.1	175.8	175.2	175.7	177.6
95°	443.3	379.9	325.8	286.4	266.4	254.6	248.7	244.9
97.5°	596.0	576.3	538.5	495.6	465.2	440.1	428.6	421.4
100°	641.4	657.0	641.4	612.1	574.5	548.7	536.8	534.9
102.5°	634.1	685.3	698.1	688.3	666.1	648.0	635.6	634.6
105°	590.6	674.9	725.6	748.2	751.1	749.4	745.0	744.3
107.5°	532.4	621.6	690.6	734.8	758.9	771.0	777.2	780.1
110°	497.1	580.8	652.0	705.4	739.5	760.4	770.5	776.5



TEST NUMBER: P332639-927

CATALOG NUMBER: SA4XXDIP-C1020D590U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	469.5	544.1	611.4	664.7	703.1	728.0	741.3	749.9
115°	440.0	500.9	559.1	606.0	643.5	672.2	688.4	693.8
117.5°	421.6	472.7	519.4	559.6	592.0	616.7	633.3	638.1
120°	411.8	458.7	499.7	535.2	562.9	584.7	598.4	605.3
122.5°	403.1	448.5	486.2	517.7	541.2	560.0	571.6	578.4
125°	389.7	433.2	469.0	496.9	516.4	531.0	541.1	545.2
127.5°	373.6	415.1	450.6	477.2	497.0	510.3	519.2	523.6
130°	361.9	402.0	437.2	464.1	484.0	496.8	505.5	509.6
132.5°	350.5	388.2	422.4	449.2	468.8	483.0	491.3	495.5
135°	333.0	366.3	397.8	423.1	442.6	456.7	465.4	469.6
137.5°	317.8	346.3	373.0	395.9	414.0	427.7	434.8	439.3
140°	309.0	333.4	357.0	378.1	395.1	406.3	413.8	418.7
142.5°	301.4	322.9	343.2	361.5	376.5	386.7	393.4	397.0
145°	291.2	308.1	323.1	336.9	349.2	357.9	363.4	366.6
147.5°	282.8	295.2	306.3	316.7	325.8	333.2	337.4	339.0
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	274.8	283.8	292.1	298.8	304.9	309.7	311.3	311.8
155°	268.9	276.1	282.9	288.3	292.9	296.4	297.8	297.8
157.5°	262.4	268.5	274.2	278.5	282.0	284.7	285.5	285.5
160°	258.5	263.5	268.4	272.0	274.7	277.5	277.9	277.9
162.5°	254.5	258.7	262.6	265.9	267.9	270.6	271.1	270.7
165°	249.0	251.7	254.8	257.1	259.0	260.7	260.3	259.8
167.5°	243.7	245.7	248.3	249.6	250.6	251.7	251.6	251.3
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	237.5	238.5	239.6	240.6	241.1	241.6	241.1	240.4
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.1	231.5	231.5	231.8	231.5	231.8	231.1	230.4
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

(END OF REPORT)