

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: P332628-927

Luminaire Tested: **SA4XXDIP-C1020D365U927-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332628-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

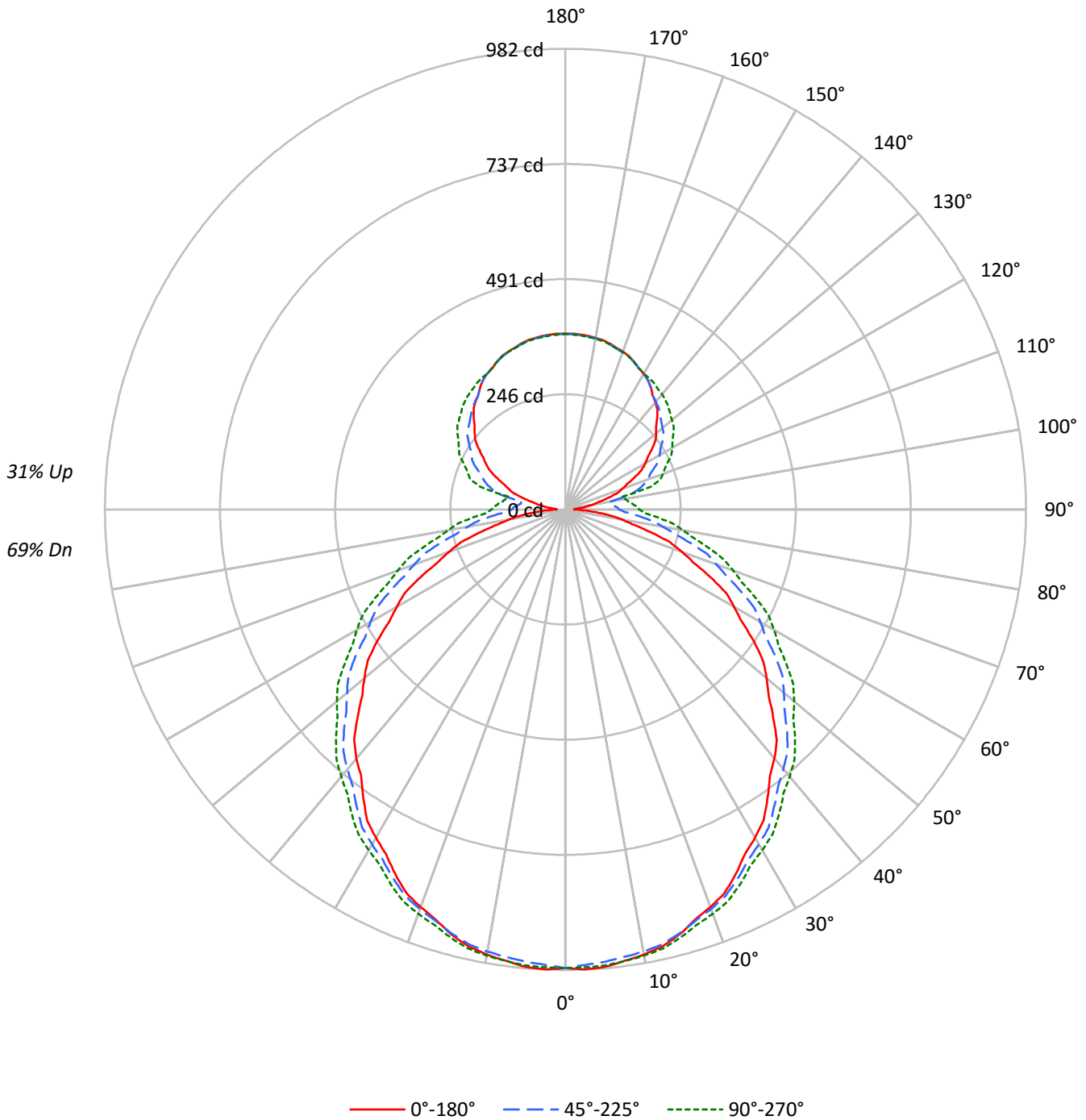
Lumens per Lamp: N/A
Luminaire Lumens: 4493.1 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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: P332628-927
CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

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	105	105	105	105	94	94	94	83	83	83	73	73	73	69				
1	101	96	91	87	95	90	86	83	80	77	74	71	69	66	63	61	59	55				
2	91	83	76	70	85	78	72	67	69	65	60	62	58	54	54	51	49	45				
3	83	72	64	58	78	68	61	55	61	55	50	54	49	45	48	44	41	37				
4	75	64	55	48	71	60	52	46	54	47	42	48	43	39	42	38	35	32				
5	69	57	48	41	65	54	46	40	48	41	36	43	37	33	38	34	30	27				
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	34	30	26	24				
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21				
8	55	42	33	28	51	40	32	27	36	29	25	32	27	23	29	24	21	19				
9	51	38	30	25	48	36	29	24	33	26	22	30	24	20	26	22	19	17				
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	25	20	17	15				

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



TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	2.1
10°-20°	265.4	5.9
20°-30°	401.3	8.9
30°-40°	485.5	10.8
40°-50°	513.3	11.4
50°-60°	483.1	10.8
60°-70°	400.8	8.9
70°-80°	281.5	6.3
80°-90°	160.2	3.6
90°-100°	107.3	2.4
100°-110°	151.6	3.4
110°-120°	203.1	4.5
120°-130°	224.7	5.0
130°-140°	223.5	5.0
140°-150°	200.6	4.5
150°-160°	159.9	3.6
160°-170°	103.2	2.3
170°-180°	35.6	0.8
0°-30°	759.3	16.9
0°-40°	1244.8	27.7
0°-60°	2241.1	49.9
0°-90°	3083.6	68.6
90°-120°	462.0	10.3
90°-150°	1110.9	24.7
90°-180°	1410.0	31.4
0°-180°	4493.1	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	115	147	157	12
95°	30	57	102	132	143	31
105°	94	119	160	188	188	99
115°	164	176	209	233	242	162
125°	226	227	252	273	281	202
135°	277	277	285	303	310	213
145°	317	317	317	324	329	198
155°	347	347	346	347	347	160
165°	366	365	364	366	364	103
175°	374	373	373	375	372	36
180°	374	374	374	374	374	



TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

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°	32.6	42.6	52.8	62.8	72.9	83.3	94.0	104.8	115.6	126.3	133.5
90°	18.4	28.8	39.2	49.6	60.0	70.7	81.7	92.7	103.6	114.6	122.0
92.5°	20.2	29.0	37.8	46.6	55.4	65.3	76.2	87.2	98.2	109.1	116.4
95°	29.6	35.6	41.4	47.4	53.3	61.3	71.3	81.4	91.4	101.5	108.4
97.5°	45.6	53.9	62.1	70.3	78.6	84.1	87.1	90.0	92.9	95.9	102.3
100°	58.0	65.4	72.9	80.3	87.8	91.9	92.8	93.7	94.7	95.5	101.1
102.5°	72.7	79.1	85.5	91.9	98.2	105.5	113.7	121.8	130.0	138.2	133.2
105°	94.1	99.3	104.6	109.9	115.1	122.4	131.7	141.0	150.4	159.6	166.3
107.5°	115.8	120.0	124.1	128.3	132.5	139.1	148.0	156.9	165.9	174.8	181.1
110°	129.7	133.3	136.9	140.5	144.1	150.4	159.2	168.1	177.0	185.9	191.6



TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	143.1	146.6	149.9	153.2	156.6	162.4	170.7	179.0	187.4	195.6	201.0
115°	163.9	166.3	168.7	171.0	173.4	178.5	186.2	193.9	201.7	209.4	214.8
117.5°	183.5	185.1	186.7	188.2	189.8	194.3	201.7	209.1	216.5	223.9	228.9
120°	196.1	197.1	198.1	199.1	200.0	204.1	211.0	218.0	225.1	232.0	237.0
122.5°	208.7	209.0	209.3	209.5	209.8	213.4	220.1	226.9	233.6	240.4	245.3
125°	225.5	225.5	225.5	225.5	225.6	228.5	234.5	240.5	246.4	252.4	257.2
127.5°	242.3	242.2	242.0	241.9	241.6	244.0	249.0	254.0	258.9	263.9	268.2
130°	252.5	252.3	252.1	251.9	251.8	253.7	257.8	261.8	265.9	270.0	274.4
132.5°	262.5	262.4	262.3	262.1	262.0	263.6	267.0	270.3	273.7	277.0	281.3
135°	276.6	276.5	276.5	276.4	276.3	277.3	279.2	281.1	283.1	285.0	289.1
137.5°	289.9	289.7	289.5	289.3	289.1	289.5	290.6	291.7	292.8	293.9	297.6
140°	298.7	298.6	298.4	298.3	298.2	298.3	298.7	299.0	299.4	299.8	303.2
142.5°	305.6	305.8	306.0	306.2	306.3	306.4	306.3	306.3	306.2	306.1	309.0
145°	317.4	317.4	317.3	317.3	317.3	317.2	317.2	317.2	317.2	317.2	318.7
147.5°	327.0	327.2	327.3	327.3	327.5	327.5	327.4	327.3	327.3	327.3	327.5
150°	334.0	334.0	334.0	334.0	334.0	334.0	333.9	333.8	333.7	333.7	333.7
152.5°	338.9	339.1	339.2	339.4	339.5	339.5	339.5	339.3	339.2	339.1	339.2
155°	346.9	347.0	347.0	347.1	347.1	347.1	346.9	346.7	346.5	346.3	346.6
157.5°	353.8	353.7	353.7	353.6	353.6	353.5	353.3	353.1	352.8	352.7	353.0
160°	357.8	357.6	357.4	357.3	357.0	357.0	356.9	356.8	356.7	356.6	357.0
162.5°	361.4	361.2	360.9	360.7	360.4	360.3	360.2	360.1	360.1	360.0	360.4
165°	365.9	365.6	365.3	365.0	364.6	364.5	364.5	364.5	364.5	364.5	365.0
167.5°	369.5	369.2	368.8	368.5	368.2	368.0	368.0	368.0	367.9	367.9	368.4
170°	371.5	371.1	370.7	370.4	370.0	369.9	369.9	370.0	370.0	370.1	370.6
172.5°	372.9	372.5	372.1	371.8	371.4	371.2	371.3	371.4	371.4	371.5	371.9
175°	374.3	373.9	373.6	373.2	372.8	372.6	372.7	372.8	372.9	372.9	373.5
177.5°	375.0	374.6	374.3	373.9	373.6	373.4	373.6	373.7	373.8	373.8	374.3
180°	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3



TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

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°	140.6	147.7	154.9	159.5	161.7	163.8	166.0	168.2
90°	129.4	136.9	144.3	149.1	151.1	153.2	155.3	157.3
92.5°	123.6	130.8	138.1	142.7	144.7	146.6	148.6	150.5
95°	115.3	122.3	129.2	133.8	136.1	138.3	140.6	142.8
97.5°	108.7	115.1	121.5	125.8	128.0	130.2	132.3	134.4
100°	106.5	112.1	117.6	121.3	123.0	124.8	126.6	128.3
102.5°	128.2	123.1	118.1	116.5	118.4	120.3	122.2	124.1
105°	172.9	179.6	186.2	189.4	189.1	188.8	188.5	188.2
107.5°	187.4	193.6	199.9	204.0	206.0	208.0	210.0	212.0
110°	197.3	203.0	208.8	212.7	214.8	217.0	219.1	221.3



TEST NUMBER: P332628-927

CATALOG NUMBER: SA4XXDIP-C1020D365U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	206.4	211.8	217.1	220.9	223.1	225.3	227.4	229.7
115°	220.3	225.9	231.3	234.9	236.6	238.3	240.0	241.7
117.5°	233.9	239.0	244.0	247.5	249.4	251.4	253.3	255.2
120°	242.0	247.0	252.0	255.4	257.2	259.0	260.9	262.7
122.5°	250.3	255.2	260.2	263.5	265.1	266.7	268.3	270.0
125°	262.1	266.8	271.6	274.8	276.3	277.9	279.4	280.9
127.5°	272.5	276.9	281.2	284.2	285.8	287.4	289.0	290.7
130°	278.9	283.4	287.8	290.7	292.2	293.7	295.1	296.6
132.5°	285.5	289.8	294.1	296.8	298.3	299.7	301.1	302.5
135°	293.1	297.1	301.1	304.0	305.5	307.1	308.7	310.3
137.5°	301.3	305.0	308.7	311.1	312.3	313.5	314.7	315.8
140°	306.5	309.8	313.2	315.5	316.8	318.1	319.3	320.6
142.5°	312.0	314.8	317.7	319.7	320.8	321.8	322.8	323.8
145°	320.3	321.8	323.3	324.6	325.7	326.8	327.9	329.0
147.5°	327.7	328.0	328.2	328.8	329.6	330.4	331.3	332.1
150°	333.7	333.7	333.7	333.7	333.8	333.9	333.9	334.0
152.5°	339.3	339.4	339.5	339.5	339.5	339.5	339.5	339.4
155°	346.8	347.1	347.3	347.4	347.1	347.0	346.8	346.6
157.5°	353.3	353.6	353.9	353.9	353.6	353.3	353.0	352.7
160°	357.4	357.8	358.1	358.1	357.8	357.4	357.0	356.6
162.5°	360.8	361.2	361.6	361.5	361.1	360.7	360.2	359.8
165°	365.5	366.0	366.5	366.5	365.9	365.4	364.8	364.2
167.5°	369.0	369.6	370.0	370.0	369.4	368.8	368.1	367.6
170°	371.1	371.6	372.1	372.0	371.5	370.8	370.2	369.6
172.5°	372.5	373.0	373.4	373.4	372.7	372.0	371.4	370.7
175°	374.1	374.6	375.2	375.1	374.3	373.6	372.8	372.1
177.5°	374.7	375.1	375.5	375.3	374.8	374.1	373.6	373.0
180°	374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3

(END OF REPORT)