

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: P332629-935

Luminaire Tested: **SA4XXDIP-C1020D365U935-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332629-935  
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-C1020D365U935-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

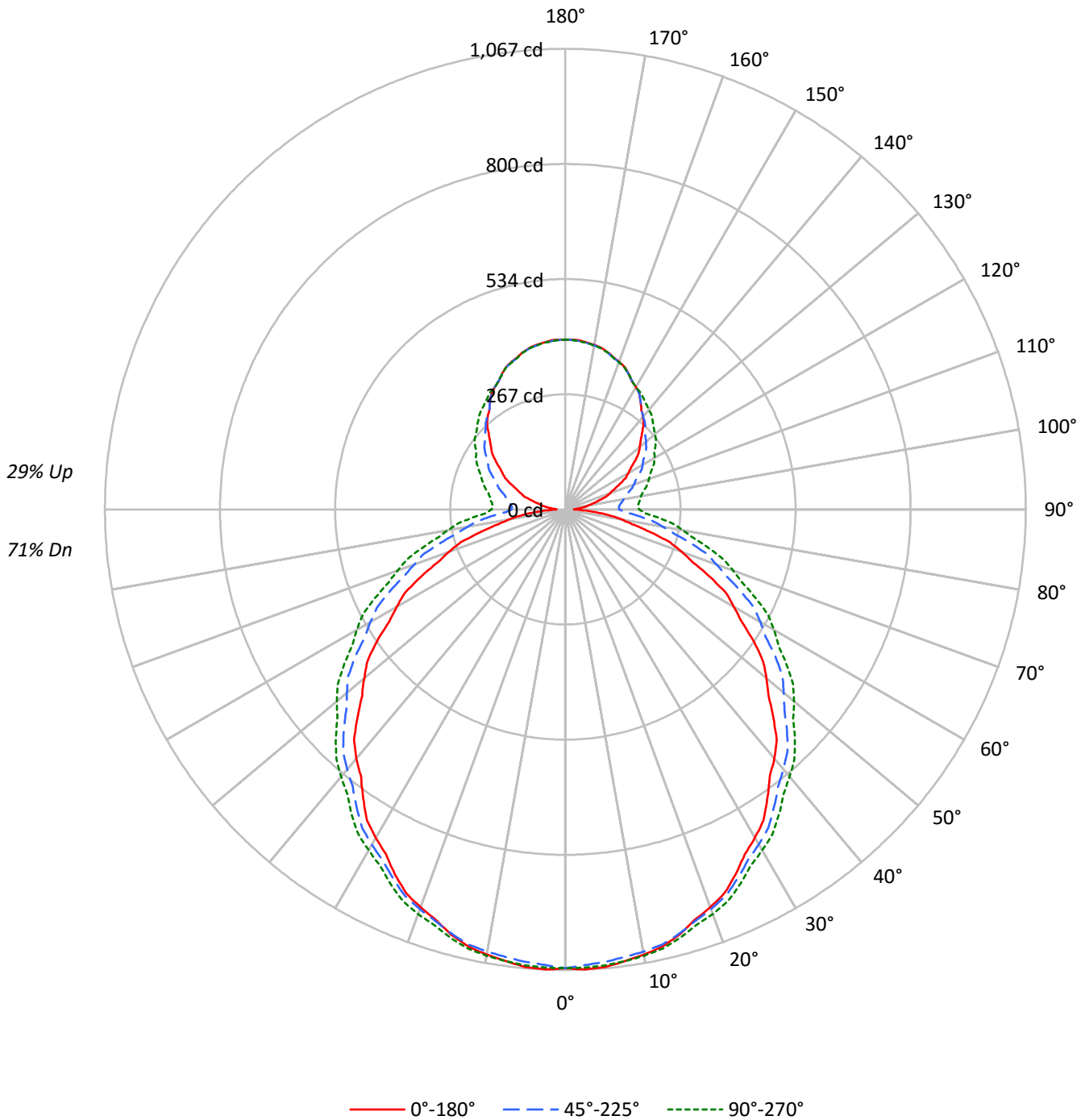
Lumens per Lamp: N/A  
Luminaire Lumens: 4716.4 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

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



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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	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	85	85	85	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	61	61	61	57	
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	50	50	50	46	
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	42	42	42	39	
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	36	36	36	33	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	31	31	31	28	
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	27	27	27	24	
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	24	24	24	22	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	21	21	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	17	
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	17	17	17	16	

**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	2.1
10°-20°	288.4	6.1
20°-30°	436.1	9.2
30°-40°	527.7	11.2
40°-50°	557.9	11.8
50°-60°	525.0	11.1
60°-70°	435.6	9.2
70°-80°	306.0	6.5
80°-90°	174.2	3.7
90°-100°	128.7	2.7
100°-110°	152.9	3.2
110°-120°	181.5	3.8
120°-130°	200.8	4.3
130°-140°	205.6	4.4
140°-150°	192.4	4.1
150°-160°	159.7	3.4
160°-170°	106.2	2.3
170°-180°	37.2	0.8
0°-30°	825.2	17.5
0°-40°	1352.9	28.7
0°-60°	2435.8	51.6
0°-90°	3351.5	71.1
90°-120°	463.0	9.8
90°-150°	1061.8	22.5
90°-180°	1365.0	28.9
0°-180°	4716.4	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	71	125	159	171	14
95°	34	76	127	158	170	33
105°	82	107	151	180	192	87
115°	140	152	188	213	222	138
125°	198	198	226	247	255	177
135°	252	254	262	280	286	195
145°	304	304	304	311	315	190
155°	347	347	347	348	347	160
165°	378	377	376	378	377	106
175°	393	391	391	393	391	37
180°	393	393	393	393	393	



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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°	35.4	46.3	57.3	68.3	79.2	90.5	102.2	113.9	125.6	137.2	145.1
90°	20.0	31.3	42.6	53.9	65.3	76.9	88.8	100.7	112.6	124.6	132.6
92.5°	24.6	35.0	45.4	55.7	66.1	77.1	88.9	100.7	112.4	124.2	131.9
95°	33.8	43.0	52.4	61.7	71.1	81.5	92.7	104.0	115.4	126.7	134.1
97.5°	45.9	53.9	61.9	69.9	77.9	87.6	98.8	110.2	121.5	132.8	139.9
100°	55.7	62.9	70.0	77.1	84.3	93.3	104.3	115.2	126.1	137.0	144.3
102.5°	66.9	73.0	79.1	85.3	91.4	99.9	110.5	121.1	131.8	142.5	149.6
105°	81.6	87.0	92.3	97.6	103.1	110.7	120.8	130.9	140.9	151.0	157.8
107.5°	99.3	103.8	108.1	112.5	117.0	123.8	133.1	142.5	151.8	161.1	167.7
110°	110.6	114.3	118.2	122.1	125.9	132.4	141.6	150.8	160.0	169.2	175.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	122.3	125.5	128.9	132.2	135.4	141.5	150.2	158.9	167.6	176.3	182.2
115°	139.8	142.2	144.6	147.0	149.3	154.6	163.0	171.3	179.7	188.0	193.7
117.5°	157.5	158.9	160.4	161.9	163.4	168.0	175.8	183.6	191.4	199.1	204.4
120°	168.4	169.4	170.6	171.6	172.7	176.9	184.4	191.9	199.3	206.8	211.8
122.5°	180.8	181.1	181.3	181.7	181.9	185.6	192.8	199.9	207.1	214.2	219.3
125°	197.9	197.7	197.4	197.2	196.9	200.0	206.6	213.1	219.6	226.2	231.1
127.5°	214.3	214.3	214.2	214.1	214.0	216.5	221.5	226.4	231.4	236.4	241.1
130°	225.1	225.0	225.0	224.9	224.8	226.9	231.1	235.4	239.6	243.8	248.5
132.5°	237.0	236.9	236.8	236.6	236.5	238.2	241.4	244.8	248.1	251.5	255.9
135°	251.6	251.9	252.4	252.8	253.2	254.3	256.1	258.0	259.8	261.7	265.8
137.5°	268.7	268.6	268.5	268.5	268.5	268.9	269.9	270.9	271.9	272.9	276.6
140°	280.2	280.0	279.9	279.7	279.7	279.7	280.0	280.3	280.5	280.8	284.1
142.5°	289.6	289.7	289.8	289.9	290.0	289.9	289.7	289.6	289.3	289.1	292.1
145°	303.9	303.9	303.9	303.9	303.9	304.0	304.0	304.1	304.2	304.3	305.7
147.5°	318.3	318.3	318.4	318.5	318.5	318.5	318.5	318.4	318.4	318.3	318.5
150°	327.0	327.0	327.1	327.1	327.1	327.1	327.1	327.1	327.1	327.1	327.1
152.5°	334.3	334.5	334.6	334.7	334.8	334.8	334.9	335.0	335.0	335.1	335.3
155°	346.8	346.8	346.8	346.8	346.8	346.8	346.7	346.6	346.6	346.6	346.8
157.5°	357.6	357.4	357.3	357.2	357.1	357.0	357.0	357.0	357.0	357.0	357.1
160°	363.9	363.8	363.8	363.7	363.6	363.5	363.5	363.4	363.3	363.3	363.5
162.5°	369.7	369.5	369.4	369.2	369.0	368.9	368.9	368.8	368.7	368.6	369.0
165°	377.5	377.4	377.2	376.9	376.8	376.6	376.4	376.3	376.2	376.1	376.4
167.5°	383.6	383.3	383.1	382.7	382.5	382.3	382.4	382.4	382.4	382.4	382.8
170°	387.0	386.7	386.3	386.0	385.6	385.6	385.6	385.6	385.7	385.8	386.2
172.5°	389.4	389.2	388.8	388.6	388.3	388.1	388.1	388.2	388.2	388.2	388.7
175°	392.8	392.4	392.1	391.8	391.4	391.2	391.2	391.1	391.1	391.0	391.4
177.5°	393.9	393.6	393.3	393.0	392.8	392.7	392.7	392.7	392.7	392.7	393.0
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4



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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°	152.8	160.6	168.3	173.3	175.7	178.1	180.4	182.8
90°	140.7	148.8	156.9	162.0	164.3	166.5	168.8	171.0
92.5°	139.6	147.3	155.0	160.0	162.1	164.4	166.5	168.8
95°	141.4	148.7	156.1	160.9	163.3	165.7	168.1	170.5
97.5°	147.1	154.3	161.4	166.2	168.4	170.7	173.0	175.3
100°	151.5	158.9	166.2	170.7	172.5	174.4	176.2	178.1
102.5°	156.7	163.8	171.0	175.6	177.7	179.8	181.9	184.1
105°	164.6	171.4	178.2	182.8	185.1	187.4	189.8	192.1
107.5°	174.4	181.2	187.9	192.2	194.0	195.9	197.8	199.7
110°	181.1	187.0	193.0	197.1	199.4	201.7	204.1	206.4





TEST NUMBER: P332629-935

CATALOG NUMBER: SA4XXDIP-C1020D365U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.0	193.9	199.8	203.7	205.9	208.0	210.2	212.3
115°	199.5	205.3	211.0	214.7	216.5	218.3	220.2	221.9
117.5°	209.7	215.0	220.2	223.9	225.8	227.8	229.8	231.8
120°	216.7	221.7	226.6	230.2	232.5	234.7	236.9	239.3
122.5°	224.4	229.4	234.5	237.8	239.5	241.2	242.8	244.4
125°	236.0	240.9	245.8	249.0	250.4	251.8	253.3	254.8
127.5°	245.6	250.3	254.9	258.1	259.8	261.5	263.1	264.8
130°	253.0	257.7	262.3	265.3	266.7	267.9	269.2	270.6
132.5°	260.3	264.7	269.1	272.1	273.5	275.0	276.5	278.0
135°	269.9	274.0	278.1	280.9	282.2	283.6	285.0	286.4
137.5°	280.3	284.0	287.7	290.2	291.5	292.9	294.3	295.7
140°	287.5	290.8	294.3	296.5	297.8	299.1	300.3	301.6
142.5°	295.1	298.1	301.1	303.2	304.3	305.3	306.4	307.5
145°	307.3	308.8	310.3	311.5	312.4	313.2	314.1	315.0
147.5°	318.7	318.7	318.9	319.4	320.2	321.0	321.8	322.5
150°	327.1	327.1	327.1	327.0	327.0	326.9	326.8	326.7
152.5°	335.4	335.6	335.8	335.7	335.5	335.4	335.2	335.0
155°	347.1	347.3	347.6	347.6	347.3	347.1	346.8	346.6
157.5°	357.3	357.6	357.7	357.7	357.5	357.3	357.1	356.8
160°	363.7	363.9	364.1	364.0	363.7	363.3	363.0	362.7
162.5°	369.4	369.7	370.1	370.1	369.8	369.5	369.1	368.8
165°	376.9	377.3	377.6	377.7	377.5	377.2	376.9	376.7
167.5°	383.2	383.6	384.0	384.0	383.6	383.1	382.7	382.3
170°	386.6	387.0	387.4	387.4	386.9	386.4	386.0	385.5
172.5°	389.2	389.6	390.0	390.0	389.6	389.1	388.7	388.1
175°	391.9	392.4	392.9	392.9	392.4	391.9	391.4	391.0
177.5°	393.4	393.8	394.2	394.2	393.7	393.3	392.9	392.4
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4

(END OF REPORT)