

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: P331290-830

Luminaire Tested: **SA2XXDIP-C485D330U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331290-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

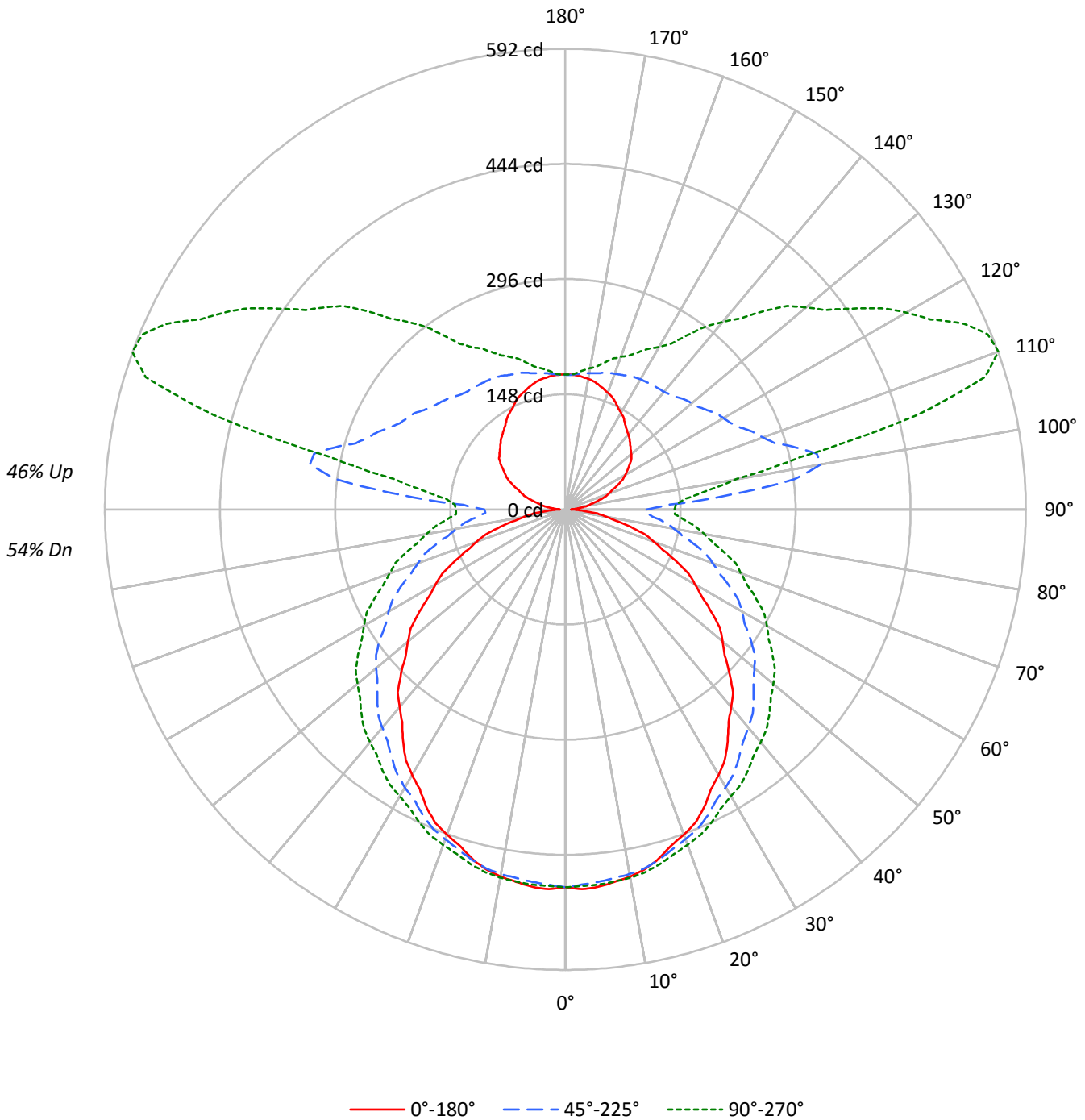
Lumens per Lamp: N/A
Luminaire Lumens: 3059.6 lumens
Efficiency: N/A
Efficacy: 111.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 27.5
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: P331290-830
CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	97	92	87	83	90	85	81	78	73	70	67	61	59	57	50	49	47	42
2	88	79	73	67	81	74	68	62	63	58	54	53	49	46	43	41	38	34
3	80	69	61	55	73	64	57	51	55	49	45	46	42	38	38	35	32	28
4	73	61	52	46	67	57	49	43	48	42	38	41	36	32	33	30	27	24
5	66	54	45	39	61	50	43	37	43	37	32	36	31	28	30	26	23	20
6	61	48	40	34	56	45	37	32	39	32	28	33	28	24	27	23	20	17
7	56	44	35	29	52	41	33	28	35	29	24	30	25	21	25	21	18	15
8	52	40	31	26	48	37	30	24	32	26	22	27	22	19	23	19	16	14
9	49	36	28	23	45	34	27	22	29	23	19	25	20	17	21	17	14	12
10	46	33	26	21	42	31	24	19	27	21	17	23	18	15	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7842	7842	7842
5°	7880	7549	7520
10°	7831	7327	7244
15°	7723	7090	6952
20°	7587	6836	6671
25°	7453	6592	6417
30°	7262	6342	6160
35°	7069	6100	5981
40°	6869	5895	5801
45°	6677	5709	5648
50°	6471	5541	5495
55°	6254	5363	5341
60°	5990	5177	5178
65°	5716	4959	4983
70°	5407	4723	4775
75°	5013	4495	4582
80°	4391	4260	4385
85°	3800	4054	4232



TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.5
10°-20°	132.0	4.3
20°-30°	200.0	6.5
30°-40°	243.6	8.0
40°-50°	262.1	8.6
50°-60°	254.5	8.3
60°-70°	222.2	7.3
70°-80°	171.1	5.6
80°-90°	116.4	3.8
90°-100°	148.3	4.8
100°-110°	292.7	9.6
110°-120°	287.8	9.4
120°-130°	226.8	7.4
130°-140°	173.9	5.7
140°-150°	126.3	4.1
150°-160°	87.6	2.9
160°-170°	51.6	1.7
170°-180°	16.8	0.5
0°-30°	378.0	12.4
0°-40°	621.6	20.3
0°-60°	1138.1	37.2
0°-90°	1647.8	53.9
90°-120°	728.8	23.8
90°-150°	1255.8	41.0
90°-180°	1412.0	46.1
0°-180°	3059.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	487	485	481	485	484	46
15°	465	466	466	472	472	131
25°	422	427	434	442	444	194
35°	364	376	389	404	410	227
45°	298	318	342	363	371	230
55°	229	255	291	315	325	204
65°	156	191	232	260	270	155
75°	87	126	171	200	210	92
85°	25	69	114	142	153	27
90°	7	53	104	131	140	5
95°	17	68	212	156	154	17
105°	44	86	307	525	468	47
115°	74	102	249	489	565	74
125°	101	121	222	387	450	90
135°	118	141	204	312	360	91
145°	134	154	195	246	273	84
155°	152	164	190	214	223	70
165°	166	171	182	192	196	47
175°	173	173	174	177	176	16
180°	173	173	173	173	173	



TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	488.5	488.1	487.8	487.4	487.0	486.4	485.5	484.7	483.8	482.9	483.5
5°	487.1	486.6	486.2	485.7	485.2	484.6	483.6	482.7	481.7	480.8	481.7
7.5°	482.8	482.4	482.1	481.8	481.5	481.0	480.2	479.6	478.8	478.1	479.2
10°	479.4	479.1	478.7	478.4	478.2	477.8	477.3	476.8	476.4	475.9	477.1
12.5°	473.7	473.8	473.9	473.9	474.0	473.8	473.5	473.2	472.8	472.5	473.7
15°	464.6	464.9	465.2	465.5	465.8	466.0	466.0	466.0	466.0	466.0	467.4
17.5°	452.8	453.5	454.1	454.8	455.4	456.0	456.5	456.9	457.5	458.0	459.4
20°	444.9	445.6	446.5	447.2	448.0	448.7	449.3	450.0	450.6	451.2	452.9
22.5°	436.4	437.3	438.3	439.1	440.1	440.9	441.9	442.7	443.6	444.5	446.2
25°	422.4	423.5	424.5	425.7	426.7	428.0	429.4	430.8	432.3	433.6	435.5
27.5°	405.5	407.3	409.1	410.9	412.6	414.3	415.9	417.6	419.2	420.9	423.3
30°	394.2	396.2	398.2	400.3	402.4	404.4	406.4	408.4	410.5	412.5	415.0
32.5°	381.8	384.1	386.3	388.7	391.0	393.3	395.7	398.1	400.5	402.9	405.8
35°	363.9	366.6	369.3	371.9	374.6	377.4	380.3	383.3	386.3	389.3	392.7
37.5°	344.5	347.6	350.6	353.7	356.8	360.2	364.1	367.9	371.7	375.6	379.5
40°	331.6	335.0	338.5	341.9	345.3	349.1	353.4	357.6	361.8	366.1	370.1
42.5°	319.1	322.6	326.0	329.5	332.9	337.1	342.0	346.8	351.7	356.5	360.9
45°	298.5	302.7	306.9	311.1	315.4	320.2	325.6	331.1	336.7	342.1	346.9
47.5°	278.1	282.7	287.3	291.8	296.4	302.0	308.4	314.8	321.2	327.6	332.7
50°	264.0	268.8	273.7	278.5	283.3	289.3	296.3	303.4	310.5	317.4	322.8
52.5°	250.4	255.5	260.6	265.8	270.9	277.1	284.6	291.9	299.4	306.8	312.2
55°	228.8	234.4	240.1	245.6	251.3	258.2	266.4	274.5	282.6	290.7	296.3
57.5°	207.4	213.8	220.1	226.4	232.8	240.1	248.4	256.7	264.9	273.2	279.4
60°	192.2	198.9	205.7	212.4	219.0	226.9	235.8	244.7	253.6	262.6	268.5
62.5°	178.6	185.6	192.7	199.6	206.6	214.5	223.4	232.3	241.3	250.2	256.5
65°	156.3	163.9	171.6	179.3	186.9	195.4	204.6	213.9	223.1	232.3	238.7
67.5°	135.7	143.7	151.7	159.8	167.8	176.4	186.0	195.4	204.8	214.2	220.7
70°	121.1	129.2	137.3	145.4	153.6	162.5	172.2	181.9	191.6	201.3	208.0
72.5°	107.5	115.9	124.3	132.7	141.1	150.2	160.0	169.8	179.6	189.5	196.1
75°	86.6	95.4	104.1	112.8	121.6	131.0	141.0	151.0	161.1	171.1	177.8
77.5°	66.4	75.5	84.6	93.8	103.0	112.6	122.8	133.0	143.2	153.4	160.0
80°	52.8	62.3	71.9	81.4	91.0	100.9	111.0	121.1	131.3	141.5	148.1
82.5°	41.6	51.0	60.3	69.7	79.2	89.1	99.3	109.6	119.9	130.3	136.8
85°	25.4	35.1	44.8	54.5	64.1	74.0	84.0	94.0	104.1	114.0	120.6
87.5°	13.9	23.4	33.0	42.4	51.9	61.7	72.1	82.6	93.0	103.0	109.3
90°	7.4	17.4	27.8	37.6	47.3	57.9	69.6	81.9	93.9	104.2	110.2
92.5°	10.6	20.8	31.7	41.6	52.2	64.5	81.6	101.8	120.9	131.1	130.5
95°	17.2	26.0	36.7	47.0	59.7	76.1	100.8	139.1	187.1	211.5	201.1
97.5°	23.9	32.2	42.3	53.3	66.1	82.8	111.1	160.5	233.8	297.7	314.4
100°	30.5	37.3	46.2	57.2	69.7	86.3	112.7	162.1	242.8	333.5	387.2
102.5°	36.1	42.1	50.4	61.1	73.2	89.4	114.3	158.9	234.0	330.8	411.9
105°	44.1	50.0	56.9	66.4	78.3	94.0	117.7	155.5	218.6	307.3	401.3
107.5°	53.6	58.2	64.2	72.4	83.3	98.4	121.4	155.0	208.2	282.7	366.2
110°	59.5	63.9	69.0	76.4	86.6	101.6	123.9	155.6	203.9	270.2	344.1



TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	65.3	69.3	74.2	80.9	90.2	105.1	126.5	156.5	200.6	260.4	327.4
115°	74.5	77.8	81.5	87.3	95.6	109.0	130.4	157.7	197.1	248.7	306.0
117.5°	83.1	85.6	88.8	93.4	100.9	114.0	133.8	159.4	194.2	239.8	290.2
120°	89.1	91.0	93.6	97.3	104.5	117.3	136.6	160.8	192.7	234.6	281.3
122.5°	94.6	96.0	98.2	101.7	108.6	121.3	139.3	161.8	191.5	230.1	273.2
125°	101.3	102.4	104.3	108.3	115.0	126.8	143.8	163.8	189.5	222.4	260.9
127.5°	107.2	108.4	111.0	115.3	121.5	133.0	148.7	166.2	188.2	216.2	249.5
130°	110.7	111.8	115.0	119.5	126.0	136.9	151.8	167.8	187.7	212.3	242.0
132.5°	113.9	115.3	118.8	123.5	130.3	140.8	154.4	169.4	187.2	208.7	235.4
135°	117.9	119.2	123.3	128.3	135.9	146.0	158.3	171.4	186.3	203.9	226.1
137.5°	122.4	124.0	128.0	133.3	140.8	149.9	161.1	172.6	185.4	199.7	218.6
140°	125.9	127.1	130.9	136.1	143.3	152.0	162.3	173.0	184.5	197.3	214.1
142.5°	129.4	130.3	133.8	139.0	145.9	154.0	163.8	173.9	184.5	196.1	210.6
145°	133.8	135.3	138.6	143.5	150.2	157.5	166.5	175.9	185.1	195.1	206.8
147.5°	139.5	140.4	143.6	148.3	153.8	160.3	168.8	177.0	185.4	194.0	203.4
150°	143.2	144.2	146.8	151.2	156.2	162.2	169.8	177.5	185.1	193.1	201.1
152.5°	146.9	147.4	150.1	153.8	158.6	164.0	170.9	177.8	184.6	191.8	199.3
155°	152.2	152.5	154.5	158.2	161.8	166.8	172.5	178.1	183.8	189.5	195.9
157.5°	156.6	156.9	158.5	161.7	164.7	168.8	173.6	178.1	182.3	187.1	192.6
160°	159.5	159.9	161.2	163.8	166.5	170.2	174.2	178.1	181.5	185.5	190.1
162.5°	162.5	162.2	163.6	165.7	168.1	171.0	174.5	177.9	180.7	184.2	188.0
165°	165.9	165.5	166.2	168.1	169.8	171.8	174.8	177.2	179.2	181.5	184.5
167.5°	168.6	168.2	168.8	170.1	171.4	172.6	174.7	176.7	177.7	179.2	181.1
170°	170.5	169.8	170.2	171.2	171.8	172.9	174.5	176.2	176.8	177.9	179.2
172.5°	171.5	171.2	171.0	172.0	172.4	173.1	174.3	175.4	175.8	176.3	177.3
175°	172.9	172.5	172.2	172.9	172.9	173.1	173.8	174.5	174.2	174.5	174.8
177.5°	173.4	172.9	172.7	173.1	173.1	173.1	173.4	174.0	173.4	173.1	173.4
180°	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1



TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	484.2	484.7	485.4	485.6	485.3	485.1	484.8	484.6
5°	482.7	483.6	484.6	484.9	484.7	484.7	484.5	484.3
7.5°	480.3	481.5	482.6	483.1	483.0	482.8	482.6	482.5
10°	478.3	479.6	480.9	481.5	481.3	481.1	481.0	480.8
12.5°	474.9	476.3	477.5	478.1	477.9	477.7	477.6	477.4
15°	468.8	470.2	471.6	472.2	472.1	471.9	471.7	471.6
17.5°	460.9	462.4	463.8	464.6	464.6	464.6	464.6	464.6
20°	454.7	456.4	458.1	458.9	458.9	458.9	458.9	458.9
22.5°	447.9	449.6	451.4	452.3	452.6	452.8	453.1	453.4
25°	437.3	439.2	441.1	442.3	442.8	443.3	443.7	444.2
27.5°	425.7	428.1	430.5	431.8	432.2	432.5	432.8	433.2
30°	417.5	420.0	422.5	424.0	424.4	424.9	425.4	425.8
32.5°	408.7	411.5	414.4	416.3	417.2	418.0	418.9	419.7
35°	396.2	399.6	403.0	405.3	406.4	407.5	408.6	409.7
37.5°	383.2	387.1	390.9	393.3	394.5	395.7	396.8	398.0
40°	374.2	378.2	382.3	385.0	386.4	387.9	389.3	390.7
42.5°	365.3	369.8	374.2	377.2	378.5	379.9	381.4	382.8
45°	351.9	356.7	361.5	364.7	366.3	367.9	369.4	371.0
47.5°	337.7	342.8	347.9	351.3	353.0	354.7	356.5	358.2
50°	328.1	333.4	338.7	342.2	344.0	345.7	347.4	349.1
52.5°	317.6	323.1	328.6	332.2	334.0	335.9	337.7	339.6
55°	302.0	307.6	313.2	317.1	319.1	321.1	323.2	325.2
57.5°	285.4	291.4	297.6	301.6	303.7	305.8	307.8	309.9
60°	274.5	280.4	286.3	290.4	292.6	294.8	297.0	299.2
62.5°	262.8	269.1	275.4	279.7	281.7	283.8	285.9	287.9
65°	245.2	251.6	258.0	262.2	264.2	266.3	268.2	270.3
67.5°	227.2	233.7	240.2	244.5	246.6	248.7	250.9	253.0
70°	214.8	221.5	228.2	232.5	234.4	236.3	238.2	240.1
72.5°	202.7	209.3	215.9	220.4	222.5	224.8	227.1	229.3
75°	184.5	191.2	197.9	202.4	204.3	206.4	208.4	210.5
77.5°	166.7	173.4	180.1	184.5	186.7	188.9	191.1	193.3
80°	154.7	161.2	167.8	172.1	174.4	176.5	178.7	180.9
82.5°	143.4	150.0	156.5	160.8	162.9	164.9	167.0	169.1
85°	127.1	133.7	140.3	144.7	146.8	149.1	151.3	153.4
87.5°	115.7	122.0	128.5	132.7	134.7	136.8	138.7	140.7
90°	116.1	121.7	128.6	133.0	134.9	136.8	138.6	140.5
92.5°	129.1	131.2	134.5	136.4	138.1	138.8	141.0	142.3
95°	180.1	165.7	157.7	154.3	151.8	151.0	151.9	154.1
97.5°	290.1	258.8	228.6	208.4	194.3	187.9	184.9	184.0
100°	386.1	350.5	310.7	274.1	248.2	235.6	227.7	223.4
102.5°	447.6	443.9	416.2	377.3	348.9	326.2	315.8	309.4
105°	476.1	519.2	529.0	521.6	502.8	483.8	471.2	468.3
107.5°	444.9	506.8	546.7	566.3	570.6	571.2	570.0	565.6
110°	419.4	484.0	531.7	562.3	578.3	586.4	591.2	592.5



TEST NUMBER: P331290-830

CATALOG NUMBER: SA2XXDIP-C485D330U830-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	395.8	458.0	508.5	543.2	564.9	577.1	584.6	588.1
115°	365.7	421.6	470.0	507.5	532.8	549.9	560.2	565.0
117.5°	341.5	391.2	435.4	470.6	496.3	514.2	524.9	529.0
120°	328.6	374.3	414.0	447.3	472.3	489.7	501.1	506.1
122.5°	317.7	359.9	397.6	427.7	450.2	467.0	477.1	481.4
125°	301.4	340.0	373.5	401.3	422.1	436.1	445.8	449.9
127.5°	285.4	320.3	351.9	377.5	395.7	409.0	417.5	421.0
130°	275.1	307.5	337.5	362.0	379.6	392.2	400.1	404.0
132.5°	265.0	295.2	323.0	346.1	363.4	376.0	383.3	387.0
135°	251.1	276.4	301.6	322.5	338.1	350.3	357.6	360.1
137.5°	239.0	260.3	280.7	298.9	313.0	323.5	329.9	332.9
140°	231.6	250.1	267.9	284.2	295.9	305.4	311.3	314.2
142.5°	225.6	241.3	256.5	270.1	281.1	289.7	295.0	296.2
145°	218.0	230.0	241.2	251.8	260.5	266.9	271.1	272.9
147.5°	212.4	221.1	229.3	236.6	243.6	248.5	251.1	252.1
150°	209.2	216.5	223.5	229.4	234.4	238.5	240.4	240.8
152.5°	206.2	213.0	219.0	224.1	228.1	231.5	233.0	233.1
155°	202.2	207.5	212.4	216.1	219.8	222.2	223.5	222.8
157.5°	197.5	201.9	206.0	209.0	211.5	213.5	214.1	214.1
160°	194.4	198.1	201.8	204.2	206.5	208.1	208.5	208.5
162.5°	191.5	194.7	197.8	199.6	202.0	203.1	203.4	203.1
165°	187.2	189.5	191.8	193.1	194.4	195.9	195.9	195.5
167.5°	182.9	184.7	186.3	187.6	188.1	188.9	188.8	188.4
170°	180.9	181.8	183.1	183.8	184.2	185.1	184.8	184.2
172.5°	178.4	179.2	180.2	180.6	181.0	181.4	181.1	180.7
175°	175.9	176.2	176.5	176.8	176.8	177.2	176.8	176.2
177.5°	174.0	174.0	174.3	174.3	174.3	174.3	174.0	173.4
180°	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1

(END OF REPORT)