

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P274341

Luminaire Tested: **LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274341
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, DOUBLE WALLWASH WITH HAZE FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1069.1 lumens
Efficiency: N/A
Efficacy: 48.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

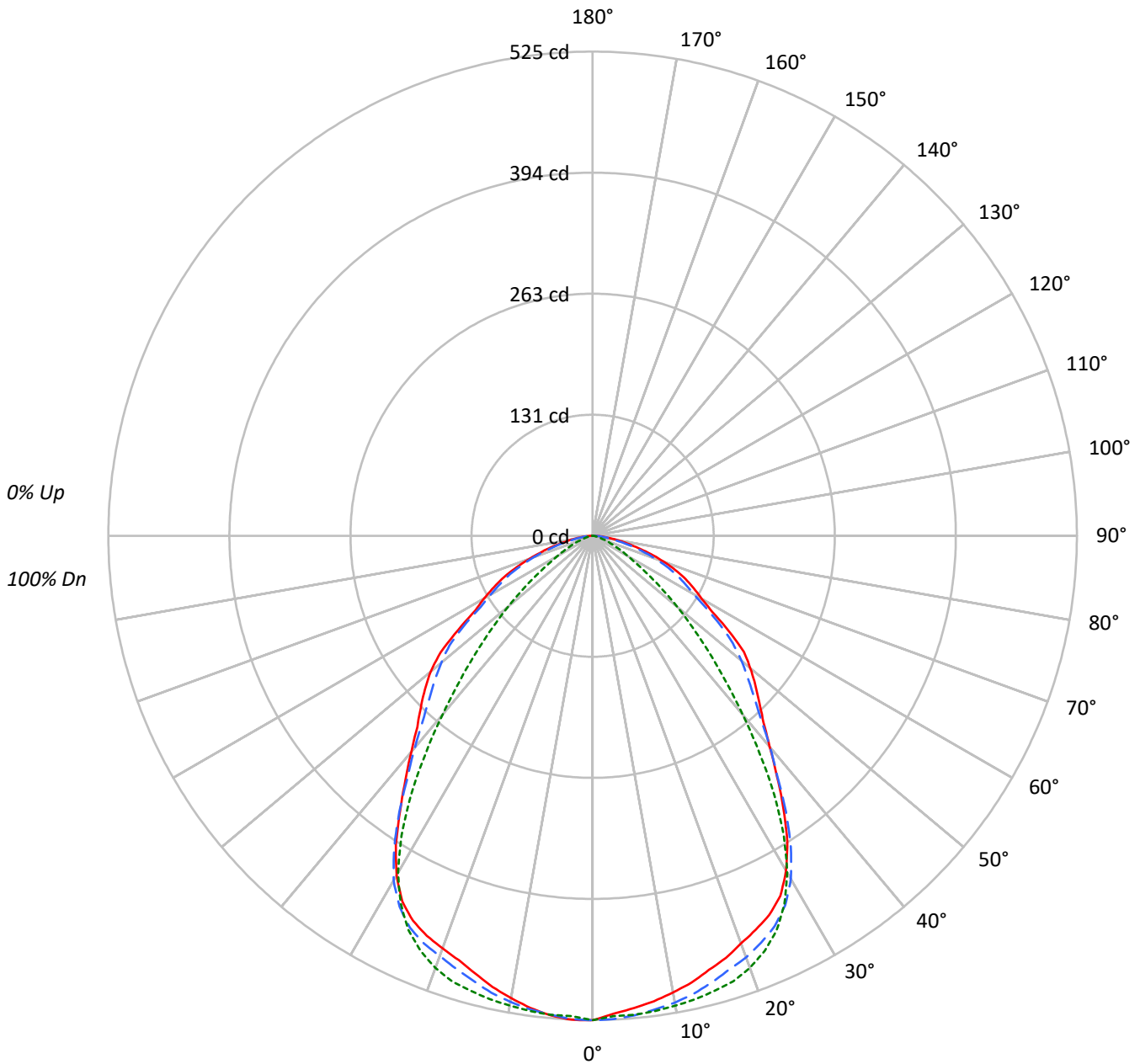
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

Luminous Intensity Polar Plot





TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76					76			
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66					66			
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51					51			
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46					46			
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41					41			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37					37			
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34					34			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	51195	51195	51195
5°	50285	50999	51077
10°	49748	51183	50381
15°	49167	51538	49580
20°	48786	51711	49367
25°	48756	50756	49540
30°	47197	47478	47839
35°	42878	40868	43271
40°	37938	32187	38866
45°	35201	24506	36317
50°	33826	18133	34796
55°	30618	12489	30211
60°	26626	8498	26470
65°	25713	6157	24421
70°	23252	4132	20716
75°	19166	2749	16418
80°	15434	1796	12235
85°	12636	895	8163



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.6	4.6
10°-20°	141.8	13.3
20°-30°	214.2	20.0
30°-40°	224.2	21.0
40°-50°	181.6	17.0
50°-60°	132.1	12.4
60°-70°	81.4	7.6
70°-80°	36.8	3.4
80°-90°	7.5	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	405.6	37.9
0°-40°	629.8	58.9
0°-60°	943.4	88.2
0°-90°	1069.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1069.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	525	525	525	525	525	
5°	514	522	521	521	522	49
15°	487	501	511	500	491	138
25°	453	467	472	469	461	208
35°	360	365	344	365	364	225
45°	255	247	178	250	264	199
55°	180	169	74	170	178	161
65°	112	100	27	99	106	109
75°	51	44	7	38	44	55
85°	11	9	1	6	7	13
90°	0	0	0	0	0	



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3
2.5°	518.8	518.8	523.7	529.4	524.5	519.7	522.9	521.3	526.9	526.9	524.5
5°	514.0	515.6	519.7	524.5	520.5	515.6	519.7	518.0	523.7	523.7	522.1
7.5°	509.1	510.0	514.8	520.5	516.4	511.6	514.8	514.0	518.8	519.7	518.0
10°	502.7	503.5	508.3	514.0	510.0	505.9	509.1	508.3	514.8	514.8	514.0
12.5°	496.2	497.0	501.9	506.7	502.7	498.6	501.9	501.9	508.3	509.1	508.3
15°	487.3	488.9	493.0	497.8	495.4	490.6	493.8	493.8	499.5	501.1	501.1
17.5°	480.1	480.9	484.9	489.8	486.5	482.5	485.7	485.7	491.4	493.0	493.0
20°	470.4	472.0	476.0	480.9	478.4	475.2	477.6	477.6	484.1	485.7	486.5
22.5°	462.3	463.9	467.1	473.6	469.5	467.1	470.4	469.5	476.8	477.6	477.6
25°	453.4	455.0	459.0	463.1	460.7	458.2	460.7	460.7	466.3	467.1	467.1
27.5°	440.5	441.3	445.3	449.3	446.9	443.7	446.9	446.1	451.8	452.6	451.8
30°	419.4	421.1	422.7	428.3	425.9	423.5	426.7	425.1	430.8	430.8	429.9
32.5°	392.8	392.8	396.0	400.0	396.8	395.2	397.6	398.4	402.5	402.5	400.0
35°	360.4	362.1	364.5	366.9	364.5	362.9	365.3	364.5	369.3	367.7	365.3
37.5°	328.1	328.9	331.4	334.6	331.4	328.9	329.7	328.9	333.0	333.0	328.9
40°	298.2	299.8	301.4	304.7	301.4	299.8	300.6	298.2	303.1	301.4	299.0
42.5°	274.0	274.8	277.2	278.8	275.6	274.8	275.6	274.0	276.4	274.8	269.9
45°	255.4	255.4	256.2	258.6	255.4	254.6	254.6	253.0	255.4	252.2	247.3
47.5°	239.2	240.0	240.8	242.5	240.0	237.6	238.4	235.2	236.8	234.4	227.9
50°	223.1	224.7	225.5	227.1	224.7	223.1	223.9	220.6	220.6	216.6	210.9
52.5°	206.9	207.7	206.9	208.5	206.9	204.5	205.3	202.0	202.0	197.2	191.5
55°	180.2	181.0	181.8	183.5	181.8	179.4	181.0	178.6	178.6	175.4	168.9
57.5°	153.6	154.4	155.2	156.0	156.0	154.4	155.2	153.6	152.7	150.3	145.5
60°	136.6	136.6	136.6	137.4	136.6	135.8	135.8	134.2	134.2	130.9	126.1
62.5°	123.7	124.5	124.5	125.3	124.5	123.7	122.8	121.2	120.4	117.2	113.1
65°	111.5	111.5	110.7	112.3	111.5	110.7	110.7	109.1	107.5	104.3	100.2
67.5°	97.0	97.8	97.0	97.8	97.8	97.0	96.2	94.6	93.7	91.3	86.5
70°	81.6	81.6	81.6	82.4	81.6	81.6	82.4	80.0	79.2	76.0	71.9
72.5°	66.3	67.1	67.1	66.3	67.1	65.5	65.5	65.5	64.7	61.4	57.4
75°	50.9	51.7	51.7	52.5	51.7	50.9	50.9	50.1	49.3	46.9	43.6
77.5°	38.0	38.0	38.8	38.8	38.8	38.0	38.0	36.4	36.4	34.8	31.5
80°	27.5	27.5	26.7	27.5	27.5	26.7	26.7	25.9	25.9	24.2	21.8
82.5°	17.8	18.6	18.6	18.6	18.6	17.8	17.8	17.8	17.0	16.2	14.5
85°	11.3	11.3	11.3	11.3	12.1	11.3	12.1	11.3	11.3	9.7	8.9
87.5°	4.8	4.8	4.8	5.7	5.7	4.8	4.8	4.8	4.8	4.8	4.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3
2.5°	524.5	525.3	522.9	526.1	523.7	524.5	525.3	524.5	521.3	521.3	530.2
5°	521.3	522.9	520.5	524.5	522.9	522.9	524.5	523.7	520.5	521.3	529.4
7.5°	518.0	520.5	518.8	522.9	520.5	520.5	522.1	522.1	518.8	519.7	526.9
10°	513.2	516.4	515.6	519.7	517.2	517.2	519.7	519.7	516.4	517.2	524.5
12.5°	509.1	512.4	511.6	515.6	514.0	514.8	515.6	517.2	513.2	514.8	521.3
15°	502.7	505.9	505.9	510.0	508.3	510.0	511.6	514.0	510.8	510.8	517.2
17.5°	495.4	499.5	499.5	502.7	502.7	503.5	506.7	509.1	505.9	506.7	512.4
20°	487.3	492.2	492.2	496.2	495.4	497.0	499.5	501.9	498.6	498.6	505.1
22.5°	479.2	483.3	484.1	486.5	486.5	487.3	489.8	491.4	487.3	487.3	493.8
25°	467.9	472.0	472.8	474.4	472.8	472.8	474.4	476.0	472.0	472.0	477.6
27.5°	452.6	456.6	456.6	455.8	454.2	455.0	454.2	455.0	451.0	450.2	455.8
30°	429.9	432.4	432.4	431.6	429.1	429.1	426.7	427.5	421.9	421.9	426.7
32.5°	399.2	401.7	400.0	398.4	395.2	393.6	392.0	391.2	385.5	385.5	391.2
35°	362.9	364.5	362.1	358.8	354.8	352.4	349.9	346.7	342.7	343.5	346.7
37.5°	325.7	325.7	322.5	316.0	312.8	308.7	304.7	304.7	298.2	297.4	299.8
40°	294.2	290.9	285.3	276.4	270.7	266.7	261.0	257.8	253.0	253.0	257.0
42.5°	265.9	259.4	252.2	240.0	234.4	229.5	222.2	219.0	213.4	212.5	215.0
45°	240.8	234.4	223.9	210.9	203.7	198.0	187.5	183.5	178.6	177.8	179.4
47.5°	220.6	213.4	200.4	183.5	176.2	168.9	158.4	152.7	148.7	146.3	148.7
50°	202.9	193.2	179.4	161.6	151.9	145.5	132.5	126.9	121.2	119.6	120.4
52.5°	183.5	173.8	159.2	140.6	131.7	122.0	109.9	101.8	97.0	94.6	97.0
55°	162.4	152.7	138.2	119.6	109.9	101.0	88.1	81.6	76.0	73.5	76.0
57.5°	139.8	130.9	118.0	99.4	90.5	82.4	70.3	63.8	58.2	56.6	58.2
60°	120.4	113.1	100.2	82.4	75.2	66.3	55.8	49.3	44.4	43.6	44.4
62.5°	107.5	99.4	87.3	70.3	63.0	55.8	46.1	39.6	35.6	34.8	35.6
65°	94.6	85.7	74.4	59.8	52.5	46.9	37.2	31.5	27.5	26.7	27.5
67.5°	80.0	71.9	62.2	49.3	43.6	38.0	29.9	24.2	21.0	20.2	21.0
70°	66.3	59.0	49.3	39.6	33.9	29.9	22.6	18.6	15.4	14.5	15.4
72.5°	52.5	46.1	38.0	29.9	26.7	22.6	17.8	13.7	11.3	10.5	11.3
75°	40.4	35.6	29.1	21.8	19.4	17.0	12.1	9.7	8.1	7.3	8.1
77.5°	28.3	25.1	20.2	16.2	13.7	12.1	8.9	6.5	5.7	4.8	5.7
80°	19.4	17.0	13.7	10.5	8.9	7.3	5.7	4.0	3.2	3.2	3.2
82.5°	12.9	10.5	8.1	6.5	5.7	4.8	3.2	2.4	2.4	1.6	1.6
85°	7.3	6.5	4.8	4.0	3.2	2.4	1.6	1.6	0.8	0.8	0.8
87.5°	3.2	2.4	1.6	1.6	0.8	0.8	0.8	0.8	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3
2.5°	527.7	525.3	528.5	525.3	523.7	525.3	523.7	528.5	524.5	521.3	524.5
5°	526.9	523.7	526.9	524.5	522.1	522.9	521.3	526.1	521.3	518.8	520.5
7.5°	525.3	522.9	524.5	522.1	519.7	520.5	518.8	522.9	518.0	515.6	517.2
10°	522.9	520.5	521.3	519.7	517.2	517.2	515.6	518.8	513.2	510.0	511.6
12.5°	519.7	516.4	518.0	515.6	512.4	512.4	510.8	513.2	507.5	504.3	505.1
15°	515.6	512.4	512.4	510.0	506.7	506.7	503.5	505.9	499.5	496.2	496.2
17.5°	510.8	506.7	506.7	504.3	500.3	499.5	497.0	499.5	492.2	488.9	488.9
20°	503.5	500.3	499.5	497.8	493.8	493.0	489.8	490.6	484.9	482.5	481.7
22.5°	493.8	490.6	491.4	488.9	485.7	484.9	481.7	484.1	478.4	476.0	476.8
25°	476.8	475.2	476.8	476.0	473.6	473.6	472.0	473.6	468.7	467.1	467.9
27.5°	457.4	456.6	457.4	457.4	455.8	455.8	455.8	458.2	453.4	452.6	452.6
30°	429.1	429.1	429.9	430.8	430.8	432.4	431.6	434.8	431.6	429.9	431.6
32.5°	392.0	395.2	397.6	397.6	397.6	399.2	400.9	403.3	400.0	400.9	400.9
35°	349.9	352.4	354.0	358.0	355.6	361.3	362.9	366.1	365.3	366.9	366.1
37.5°	303.1	306.3	309.5	315.2	314.4	320.8	324.1	330.5	328.9	332.2	333.8
40°	259.4	264.3	269.1	273.2	276.4	282.9	289.3	297.4	299.8	302.3	303.1
42.5°	217.4	222.2	230.3	236.0	240.8	251.3	260.2	269.9	272.4	277.2	278.8
45°	183.5	187.5	197.2	204.5	208.5	223.9	234.4	246.5	250.5	256.2	258.6
47.5°	151.9	159.2	168.9	177.8	183.5	199.6	213.4	226.3	231.9	238.4	241.6
50°	124.5	132.5	145.5	153.6	161.6	179.4	194.8	208.5	214.2	221.4	224.7
52.5°	101.8	110.7	122.8	131.7	140.6	159.2	175.4	188.3	195.6	200.4	205.3
55°	80.0	89.7	101.8	111.5	118.8	139.0	152.7	165.7	170.5	174.6	177.0
57.5°	62.2	69.5	81.6	89.7	98.6	116.4	130.1	139.8	143.9	148.7	150.3
60°	48.5	55.8	67.1	75.2	83.2	100.2	114.0	123.7	127.7	131.7	134.2
62.5°	38.8	46.1	56.6	63.8	71.1	86.5	98.6	108.3	113.1	117.2	119.6
65°	30.7	37.2	46.1	53.3	59.0	72.7	84.9	93.7	98.6	102.6	105.1
67.5°	24.2	29.9	38.0	42.8	48.5	59.8	70.3	78.4	82.4	87.3	89.7
70°	18.6	22.6	29.9	33.9	38.0	47.7	55.8	63.8	67.9	71.1	72.7
72.5°	13.7	17.0	22.6	25.9	28.3	36.4	42.8	48.5	51.7	55.0	56.6
75°	9.7	12.1	16.2	18.6	20.2	25.9	31.5	35.6	38.0	40.4	42.8
77.5°	6.5	8.1	10.5	12.1	13.7	17.8	21.0	24.2	26.7	29.1	29.9
80°	4.0	5.7	7.3	8.1	8.9	11.3	14.5	16.2	17.8	19.4	20.2
82.5°	2.4	3.2	4.0	4.8	5.7	7.3	8.9	10.5	11.3	12.9	13.7
85°	0.8	1.6	1.6	2.4	2.4	4.0	4.8	5.7	6.5	7.3	8.1
87.5°	0.0	0.0	0.8	0.8	0.8	0.8	1.6	1.6	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P274341

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBDW0H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	525.3	525.3	525.3	525.3	525.3	525.3	525.3	525.3
2.5°	527.7	525.3	523.7	522.9	528.5	521.3	524.5	525.3
5°	524.5	522.1	520.5	519.7	524.5	518.0	520.5	522.1
7.5°	519.7	518.0	515.6	514.8	519.7	512.4	515.6	516.4
10°	514.0	511.6	510.0	509.1	513.2	505.9	509.1	509.1
12.5°	506.7	505.1	501.9	501.9	505.1	498.6	501.1	501.1
15°	497.0	495.4	492.2	492.2	495.4	488.9	491.4	491.4
17.5°	488.9	487.3	484.9	484.1	487.3	480.9	483.3	482.5
20°	482.5	480.9	477.6	477.6	480.1	473.6	476.0	476.0
22.5°	476.8	476.0	472.8	472.8	476.0	469.5	471.2	469.5
25°	467.9	467.1	463.9	464.7	466.3	459.9	462.3	460.7
27.5°	453.4	453.4	450.2	449.3	451.8	446.1	447.7	446.9
30°	430.8	431.6	427.5	427.5	428.3	423.5	425.9	425.1
32.5°	400.0	400.9	397.6	396.8	399.2	395.2	396.8	396.8
35°	366.1	366.9	364.5	364.5	366.9	364.5	364.5	363.7
37.5°	332.2	333.8	332.2	333.0	334.6	332.2	333.8	333.0
40°	304.7	306.3	303.9	305.5	307.1	304.7	307.1	305.5
42.5°	279.6	282.1	280.4	282.1	283.7	282.1	283.7	281.2
45°	261.0	262.7	261.8	262.7	264.3	263.5	264.3	263.5
47.5°	243.3	246.5	244.9	246.5	248.9	247.3	248.9	246.5
50°	227.1	229.5	228.7	230.3	231.1	230.3	231.9	229.5
52.5°	206.1	208.5	207.7	207.7	209.3	207.7	209.3	207.7
55°	178.6	179.4	179.4	180.2	179.4	178.6	179.4	177.8
57.5°	151.9	153.6	151.1	153.6	152.7	151.9	151.9	150.3
60°	135.0	137.4	135.8	137.4	136.6	136.6	136.6	135.8
62.5°	121.2	122.8	121.2	122.0	122.0	122.0	121.2	120.4
65°	105.9	108.3	106.7	107.5	106.7	105.9	106.7	105.9
67.5°	90.5	91.3	91.3	90.5	90.5	90.5	90.5	88.9
70°	73.5	74.4	73.5	75.2	74.4	73.5	74.4	72.7
72.5°	57.4	58.2	57.4	58.2	57.4	57.4	57.4	57.4
75°	42.8	43.6	43.6	43.6	43.6	43.6	42.0	43.6
77.5°	30.7	30.7	30.7	31.5	30.7	30.7	30.7	30.7
80°	21.0	21.0	21.0	21.8	21.0	21.8	21.0	21.8
82.5°	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
85°	7.3	8.1	8.1	7.3	7.3	7.3	7.3	7.3
87.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)