

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: P274338

Luminaire Tested: **LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274338
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: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, DOUBLE WALLWASH WITH HAZE FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1166.6 lumens
Efficiency: N/A
Efficacy: 53.0 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

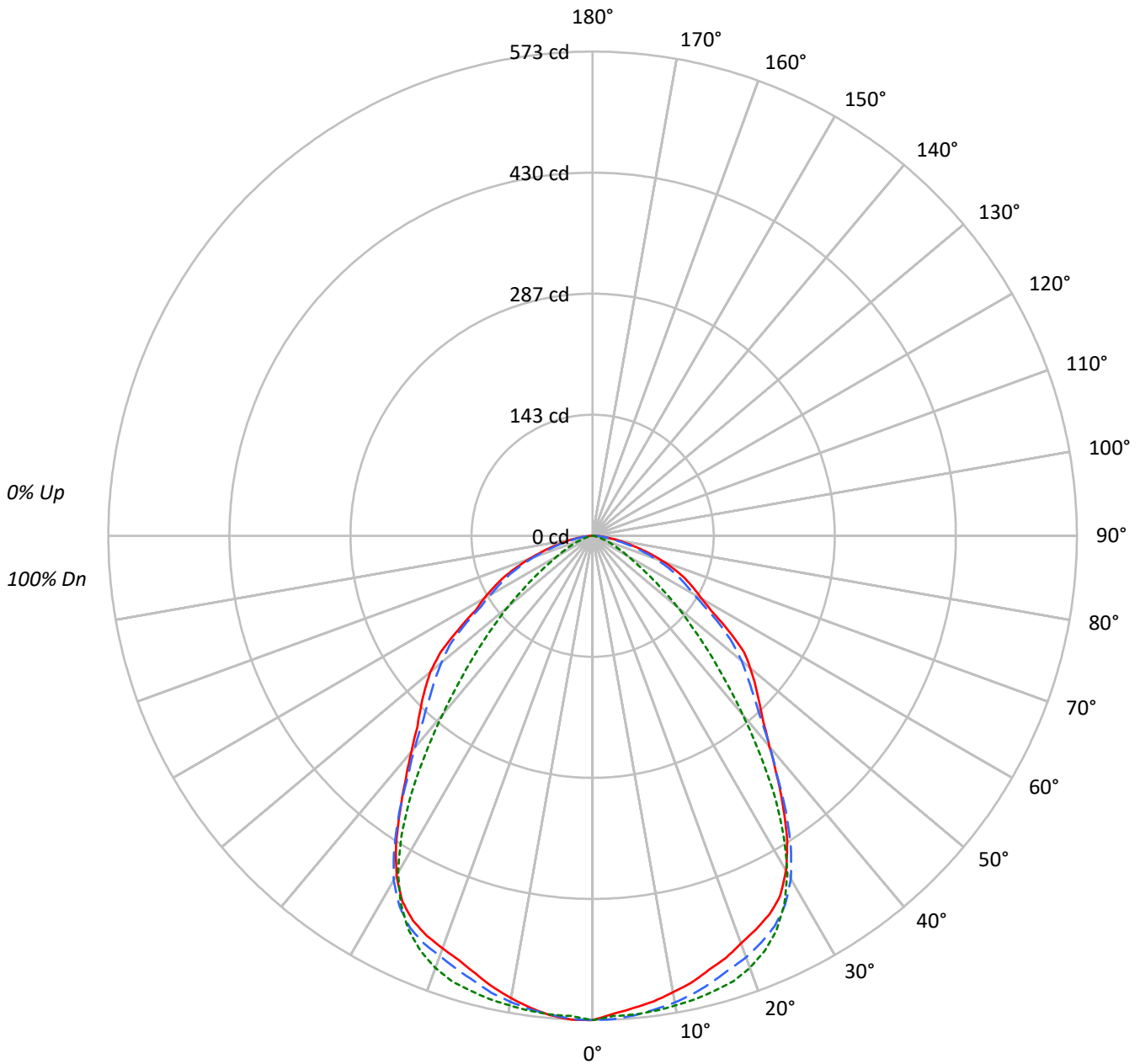
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P274338

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

Luminous Intensity Polar Plot





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CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66																			
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41																			
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	55863	55863	55863
5°	54873	55646	55734
10°	54280	55854	54983
15°	53657	56239	54100
20°	53236	56430	53868
25°	53197	55380	54057
30°	51507	51811	52205
35°	46793	44592	47221
40°	41398	35113	42416
45°	38412	26738	39625
50°	36904	19786	37980
55°	33422	13644	32963
60°	29043	9278	28887
65°	28065	6711	26635
70°	25389	4531	22625
75°	20936	2975	17924
80°	16837	1964	13357
85°	13754	1006	8834



TEST NUMBER: P274338

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.1	4.6
10°-20°	154.7	13.3
20°-30°	233.7	20.0
30°-40°	244.6	21.0
40°-50°	198.1	17.0
50°-60°	144.1	12.4
60°-70°	88.9	7.6
70°-80°	40.1	3.4
80°-90°	8.2	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°	442.6	37.9
0°-40°	687.2	58.9
0°-60°	1029.4	88.2
0°-90°	1166.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1166.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	573	573	573	573	573	
5°	561	570	569	569	570	53
15°	532	547	557	545	536	150
25°	495	510	515	512	503	227
35°	393	399	375	399	397	245
45°	279	270	194	273	288	217
55°	197	184	80	186	194	175
65°	122	109	29	108	116	119
75°	56	48	8	41	48	60
85°	12	10	1	7	8	14
90°	0	0	0	0	0	



TEST NUMBER: P274338

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2
2.5°	566.2	566.2	571.5	577.6	572.4	567.1	570.6	568.8	575.0	575.0	572.4
5°	560.9	562.7	567.1	572.4	567.9	562.7	567.1	565.3	571.5	571.5	569.7
7.5°	555.6	556.5	561.8	567.9	563.5	558.2	561.8	560.9	566.2	567.1	565.3
10°	548.5	549.4	554.7	560.9	556.5	552.1	555.6	554.7	561.8	561.8	560.9
12.5°	541.5	542.4	547.7	553.0	548.5	544.1	547.7	547.7	554.7	555.6	554.7
15°	531.8	533.6	538.0	543.3	540.6	535.3	538.8	538.8	545.0	546.8	546.8
17.5°	523.9	524.7	529.1	534.4	530.9	526.5	530.0	530.0	536.2	538.0	538.0
20°	513.3	515.0	519.4	524.7	522.1	518.6	521.2	521.2	528.3	530.0	530.9
22.5°	504.4	506.2	509.7	516.8	512.4	509.7	513.3	512.4	520.3	521.2	521.2
25°	494.7	496.5	500.9	505.3	502.7	500.0	502.7	502.7	508.9	509.7	509.7
27.5°	480.6	481.5	485.9	490.3	487.7	484.2	487.7	486.8	493.0	493.9	493.0
30°	457.7	459.5	461.2	467.4	464.8	462.1	465.6	463.9	470.1	470.1	469.2
32.5°	428.6	428.6	432.1	436.5	433.0	431.3	433.9	434.8	439.2	439.2	436.5
35°	393.3	395.1	397.7	400.4	397.7	396.0	398.6	397.7	403.0	401.3	398.6
37.5°	358.1	358.9	361.6	365.1	361.6	358.9	359.8	358.9	363.3	363.3	358.9
40°	325.4	327.2	329.0	332.5	329.0	327.2	328.1	325.4	330.7	329.0	326.3
42.5°	299.0	299.8	302.5	304.3	300.7	299.8	300.7	299.0	301.6	299.8	294.6
45°	278.7	278.7	279.6	282.2	278.7	277.8	277.8	276.0	278.7	275.2	269.9
47.5°	261.0	261.9	262.8	264.6	261.9	259.3	260.2	256.6	258.4	255.8	248.7
50°	243.4	245.2	246.1	247.8	245.2	243.4	244.3	240.8	240.8	236.4	230.2
52.5°	225.8	226.6	225.8	227.5	225.8	223.1	224.0	220.5	220.5	215.2	209.0
55°	196.7	197.5	198.4	200.2	198.4	195.8	197.5	194.9	194.9	191.4	184.3
57.5°	167.6	168.4	169.3	170.2	170.2	168.4	169.3	167.6	166.7	164.0	158.7
60°	149.0	149.0	149.0	149.9	149.0	148.2	148.2	146.4	146.4	142.9	137.6
62.5°	134.9	135.8	135.8	136.7	135.8	134.9	134.0	132.3	131.4	127.9	123.5
65°	121.7	121.7	120.8	122.6	121.7	120.8	120.8	119.1	117.3	113.8	109.4
67.5°	105.8	106.7	105.8	106.7	106.7	105.8	104.9	103.2	102.3	99.7	94.4
70°	89.1	89.1	89.1	90.0	89.1	89.1	90.0	87.3	86.4	82.9	78.5
72.5°	72.3	73.2	73.2	72.3	73.2	71.4	71.4	71.4	70.6	67.0	62.6
75°	55.6	56.4	56.4	57.3	56.4	55.6	55.6	54.7	53.8	51.2	47.6
77.5°	41.4	41.4	42.3	42.3	42.3	41.4	41.4	39.7	39.7	37.9	34.4
80°	30.0	30.0	29.1	30.0	30.0	29.1	29.1	28.2	28.2	26.5	23.8
82.5°	19.4	20.3	20.3	20.3	20.3	19.4	19.4	19.4	18.5	17.6	15.9
85°	12.3	12.3	12.3	12.3	13.2	12.3	13.2	12.3	12.3	10.6	9.7
87.5°	5.3	5.3	5.3	6.2	6.2	5.3	5.3	5.3	5.3	5.3	4.4
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: P274338

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2
2.5°	572.4	573.2	570.6	574.1	571.5	572.4	573.2	572.4	568.8	568.8	578.5
5°	568.8	570.6	567.9	572.4	570.6	570.6	572.4	571.5	567.9	568.8	577.6
7.5°	565.3	567.9	566.2	570.6	567.9	567.9	569.7	569.7	566.2	567.1	575.0
10°	560.0	563.5	562.7	567.1	564.4	564.4	567.1	567.1	563.5	564.4	572.4
12.5°	555.6	559.1	558.2	562.7	560.9	561.8	562.7	564.4	560.0	561.8	568.8
15°	548.5	552.1	552.1	556.5	554.7	556.5	558.2	560.9	557.4	557.4	564.4
17.5°	540.6	545.0	545.0	548.5	548.5	549.4	553.0	555.6	552.1	553.0	559.1
20°	531.8	537.1	537.1	541.5	540.6	542.4	545.0	547.7	544.1	544.1	551.2
22.5°	523.0	527.4	528.3	530.9	530.9	531.8	534.4	536.2	531.8	531.8	538.8
25°	510.6	515.0	515.9	517.7	515.9	515.9	517.7	519.4	515.0	515.0	521.2
27.5°	493.9	498.3	498.3	497.4	495.6	496.5	495.6	496.5	492.1	491.2	497.4
30°	469.2	471.8	471.8	470.9	468.3	468.3	465.6	466.5	460.4	460.4	465.6
32.5°	435.7	438.3	436.5	434.8	431.3	429.5	427.7	426.8	420.7	420.7	426.8
35°	396.0	397.7	395.1	391.6	387.2	384.5	381.9	378.3	373.9	374.8	378.3
37.5°	355.4	355.4	351.9	344.8	341.3	336.9	332.5	332.5	325.4	324.5	327.2
40°	321.0	317.5	311.3	301.6	295.4	291.0	284.9	281.3	276.0	276.0	280.4
42.5°	290.1	283.1	275.2	261.9	255.8	250.5	242.5	239.0	232.8	231.9	234.6
45°	262.8	255.8	244.3	230.2	222.2	216.1	204.6	200.2	194.9	194.0	195.8
47.5°	240.8	232.8	218.7	200.2	192.3	184.3	172.9	166.7	162.3	159.6	162.3
50°	221.4	210.8	195.8	176.4	165.8	158.7	144.6	138.5	132.3	130.5	131.4
52.5°	200.2	189.6	173.7	153.5	143.8	133.2	119.9	111.1	105.8	103.2	105.8
55°	177.3	166.7	150.8	130.5	119.9	110.2	96.1	89.1	82.9	80.3	82.9
57.5°	152.6	142.9	128.8	108.5	98.8	90.0	76.7	69.7	63.5	61.7	63.5
60°	131.4	123.5	109.4	90.0	82.0	72.3	60.9	53.8	48.5	47.6	48.5
62.5°	117.3	108.5	95.2	76.7	68.8	60.9	50.3	43.2	38.8	37.9	38.8
65°	103.2	93.5	81.1	65.3	57.3	51.2	40.6	34.4	30.0	29.1	30.0
67.5°	87.3	78.5	67.9	53.8	47.6	41.4	32.6	26.5	22.9	22.0	22.9
70°	72.3	64.4	53.8	43.2	37.0	32.6	24.7	20.3	16.8	15.9	16.8
72.5°	57.3	50.3	41.4	32.6	29.1	24.7	19.4	15.0	12.3	11.5	12.3
75°	44.1	38.8	31.7	23.8	21.2	18.5	13.2	10.6	8.8	7.9	8.8
77.5°	30.9	27.3	22.0	17.6	15.0	13.2	9.7	7.1	6.2	5.3	6.2
80°	21.2	18.5	15.0	11.5	9.7	7.9	6.2	4.4	3.5	3.5	3.5
82.5°	14.1	11.5	8.8	7.1	6.2	5.3	3.5	2.6	2.6	1.8	1.8
85°	7.9	7.1	5.3	4.4	3.5	2.6	1.8	1.8	0.9	0.9	0.9
87.5°	3.5	2.6	1.8	1.8	0.9	0.9	0.9	0.9	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: P274338

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2
2.5°	575.9	573.2	576.8	573.2	571.5	573.2	571.5	576.8	572.4	568.8	572.4
5°	575.0	571.5	575.0	572.4	569.7	570.6	568.8	574.1	568.8	566.2	567.9
7.5°	573.2	570.6	572.4	569.7	567.1	567.9	566.2	570.6	565.3	562.7	564.4
10°	570.6	567.9	568.8	567.1	564.4	564.4	562.7	566.2	560.0	556.5	558.2
12.5°	567.1	563.5	565.3	562.7	559.1	559.1	557.4	560.0	553.8	550.3	551.2
15°	562.7	559.1	559.1	556.5	553.0	553.0	549.4	552.1	545.0	541.5	541.5
17.5°	557.4	553.0	553.0	550.3	545.9	545.0	542.4	545.0	537.1	533.6	533.6
20°	549.4	545.9	545.0	543.3	538.8	538.0	534.4	535.3	529.1	526.5	525.6
22.5°	538.8	535.3	536.2	533.6	530.0	529.1	525.6	528.3	522.1	519.4	520.3
25°	520.3	518.6	520.3	519.4	516.8	516.8	515.0	516.8	511.5	509.7	510.6
27.5°	499.2	498.3	499.2	499.2	497.4	497.4	497.4	500.0	494.7	493.9	493.9
30°	468.3	468.3	469.2	470.1	470.1	471.8	470.9	474.5	470.9	469.2	470.9
32.5°	427.7	431.3	433.9	433.9	433.9	435.7	437.4	440.1	436.5	437.4	437.4
35°	381.9	384.5	386.3	390.7	388.0	394.2	396.0	399.5	398.6	400.4	399.5
37.5°	330.7	334.2	337.8	343.9	343.1	350.1	353.6	360.7	358.9	362.5	364.2
40°	283.1	288.4	293.7	298.1	301.6	308.7	315.7	324.5	327.2	329.8	330.7
42.5°	237.2	242.5	251.3	257.5	262.8	274.3	284.0	294.6	297.2	302.5	304.3
45°	200.2	204.6	215.2	223.1	227.5	244.3	255.8	269.0	273.4	279.6	282.2
47.5°	165.8	173.7	184.3	194.0	200.2	217.8	232.8	246.9	253.1	260.2	263.7
50°	135.8	144.6	158.7	167.6	176.4	195.8	212.5	227.5	233.7	241.6	245.2
52.5°	111.1	120.8	134.0	143.8	153.5	173.7	191.4	205.5	213.4	218.7	224.0
55°	87.3	97.9	111.1	121.7	129.6	151.7	166.7	180.8	186.1	190.5	193.1
57.5°	67.9	75.8	89.1	97.9	107.6	127.0	142.0	152.6	157.0	162.3	164.0
60°	52.9	60.9	73.2	82.0	90.8	109.4	124.3	134.9	139.3	143.8	146.4
62.5°	42.3	50.3	61.7	69.7	77.6	94.4	107.6	118.2	123.5	127.9	130.5
65°	33.5	40.6	50.3	58.2	64.4	79.4	92.6	102.3	107.6	112.0	114.6
67.5°	26.5	32.6	41.4	46.7	52.9	65.3	76.7	85.5	90.0	95.2	97.9
70°	20.3	24.7	32.6	37.0	41.4	52.0	60.9	69.7	74.1	77.6	79.4
72.5°	15.0	18.5	24.7	28.2	30.9	39.7	46.7	52.9	56.4	60.0	61.7
75°	10.6	13.2	17.6	20.3	22.0	28.2	34.4	38.8	41.4	44.1	46.7
77.5°	7.1	8.8	11.5	13.2	15.0	19.4	22.9	26.5	29.1	31.7	32.6
80°	4.4	6.2	7.9	8.8	9.7	12.3	15.9	17.6	19.4	21.2	22.0
82.5°	2.6	3.5	4.4	5.3	6.2	7.9	9.7	11.5	12.3	14.1	15.0
85°	0.9	1.8	1.8	2.6	2.6	4.4	5.3	6.2	7.1	7.9	8.8
87.5°	0.0	0.0	0.9	0.9	0.9	0.9	1.8	1.8	1.8	1.8	1.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBDW0H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	573.2	573.2	573.2	573.2	573.2	573.2	573.2	573.2
2.5°	575.9	573.2	571.5	570.6	576.8	568.8	572.4	573.2
5°	572.4	569.7	567.9	567.1	572.4	565.3	567.9	569.7
7.5°	567.1	565.3	562.7	561.8	567.1	559.1	562.7	563.5
10°	560.9	558.2	556.5	555.6	560.0	552.1	555.6	555.6
12.5°	553.0	551.2	547.7	547.7	551.2	544.1	546.8	546.8
15°	542.4	540.6	537.1	537.1	540.6	533.6	536.2	536.2
17.5°	533.6	531.8	529.1	528.3	531.8	524.7	527.4	526.5
20°	526.5	524.7	521.2	521.2	523.9	516.8	519.4	519.4
22.5°	520.3	519.4	515.9	515.9	519.4	512.4	514.2	512.4
25°	510.6	509.7	506.2	507.1	508.9	501.8	504.4	502.7
27.5°	494.7	494.7	491.2	490.3	493.0	486.8	488.6	487.7
30°	470.1	470.9	466.5	466.5	467.4	462.1	464.8	463.9
32.5°	436.5	437.4	433.9	433.0	435.7	431.3	433.0	433.0
35°	399.5	400.4	397.7	397.7	400.4	397.7	397.7	396.9
37.5°	362.5	364.2	362.5	363.3	365.1	362.5	364.2	363.3
40°	332.5	334.2	331.6	333.4	335.1	332.5	335.1	333.4
42.5°	305.1	307.8	306.0	307.8	309.5	307.8	309.5	306.9
45°	284.9	286.6	285.7	286.6	288.4	287.5	288.4	287.5
47.5°	265.5	269.0	267.2	269.0	271.6	269.9	271.6	269.0
50°	247.8	250.5	249.6	251.3	252.2	251.3	253.1	250.5
52.5°	224.9	227.5	226.6	226.6	228.4	226.6	228.4	226.6
55°	194.9	195.8	195.8	196.7	195.8	194.9	195.8	194.0
57.5°	165.8	167.6	164.9	167.6	166.7	165.8	165.8	164.0
60°	147.3	149.9	148.2	149.9	149.0	149.0	149.0	148.2
62.5°	132.3	134.0	132.3	133.2	133.2	133.2	132.3	131.4
65°	115.5	118.2	116.4	117.3	116.4	115.5	116.4	115.5
67.5°	98.8	99.7	99.7	98.8	98.8	98.8	98.8	97.0
70°	80.3	81.1	80.3	82.0	81.1	80.3	81.1	79.4
72.5°	62.6	63.5	62.6	63.5	62.6	62.6	62.6	62.6
75°	46.7	47.6	47.6	47.6	47.6	47.6	45.9	47.6
77.5°	33.5	33.5	33.5	34.4	33.5	33.5	33.5	33.5
80°	22.9	22.9	22.9	23.8	22.9	23.8	22.9	23.8
82.5°	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
85°	7.9	8.8	8.8	7.9	7.9	7.9	7.9	7.9
87.5°	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)