

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: P274350

Luminaire Tested: **LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274350
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH HAZE FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1033.5 lumens
Efficiency: N/A
Efficacy: 47.0 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

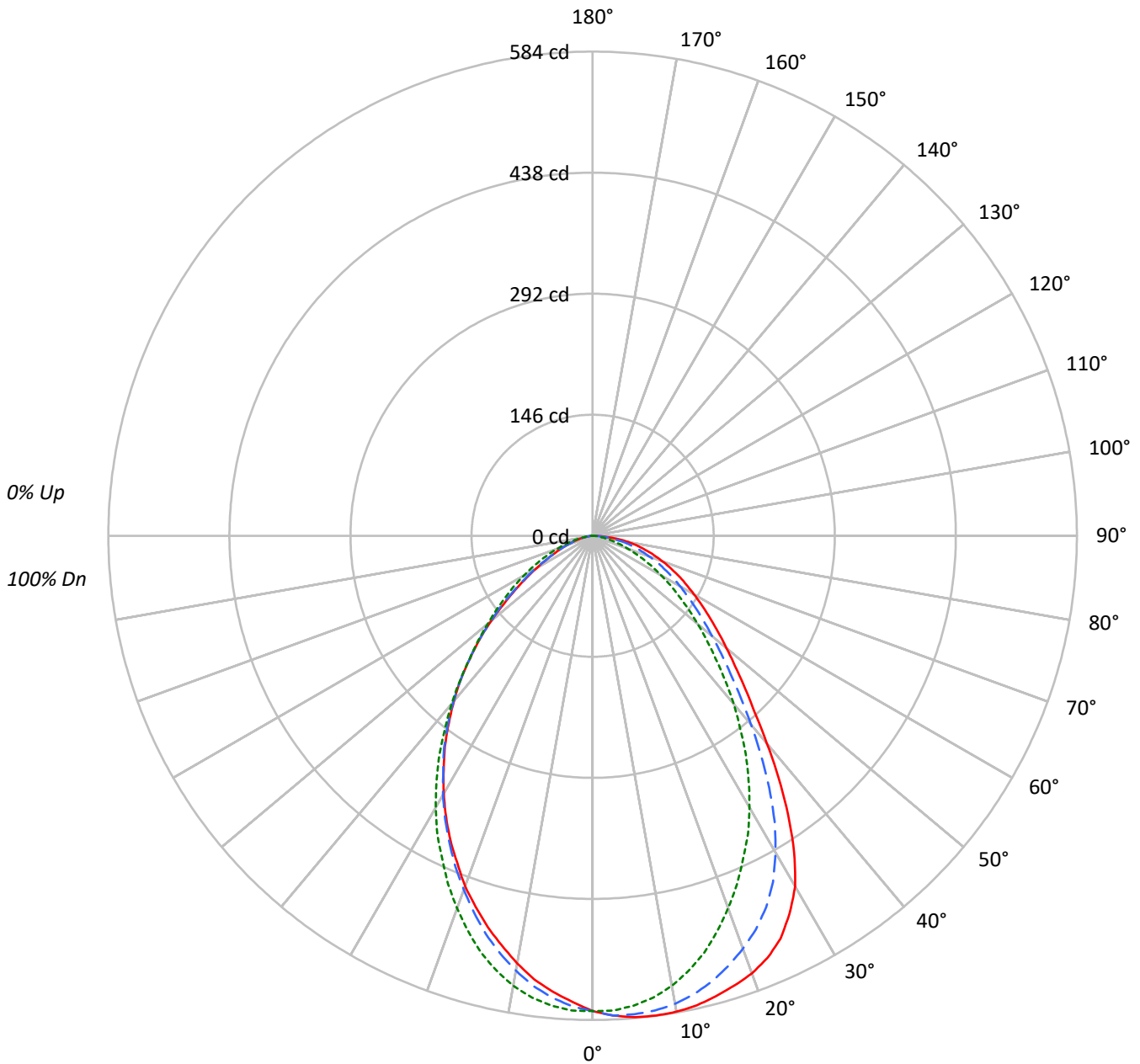
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

Luminous Intensity Polar Plot





TEST NUMBER: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

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	90	88																			
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76																			
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	55863	55863	55863
5°	57025	55646	54002
10°	57685	54538	51836
15°	58005	52496	49288
20°	58255	49564	46640
25°	57648	46175	43615
30°	54973	42572	40389
35°	48887	38298	36930
40°	41614	33650	33091
45°	35849	28930	28806
50°	31946	25002	24198
55°	29361	21579	19336
60°	27503	18556	15125
65°	26427	15658	11784
70°	25389	12566	9546
75°	24589	9979	7305
80°	24751	6903	4434
85°	20687	4920	2013



TEST NUMBER: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.7	5.2
10°-20°	147.5	14.3
20°-30°	206.3	20.0
30°-40°	212.0	20.5
40°-50°	172.1	16.7
50°-60°	121.2	11.7
60°-70°	74.6	7.2
70°-80°	37.3	3.6
80°-90°	8.9	0.9
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°	407.4	39.4
0°-40°	619.5	59.9
0°-60°	912.8	88.3
0°-90°	1033.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1033.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	573	573	573	573	573	
5°	583	579	569	559	552	56
15°	575	556	520	497	488	162
25°	536	495	429	408	406	245
35°	411	371	322	312	310	256
45°	260	235	210	210	209	202
55°	173	152	127	116	114	155
65°	115	96	68	52	51	113
75°	65	51	26	19	19	70
85°	18	12	4	3	2	22
90°	0	0	0	0	0	



TEST NUMBER: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

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°	579.3	580.2	577.6	580.2	576.7	578.5	579.3	577.6	575.8	579.3	579.3
5°	582.9	582.9	580.2	583.7	579.3	580.2	582.0	579.3	576.7	580.2	579.3
7.5°	583.7	583.7	580.2	583.7	579.3	580.2	581.1	578.5	575.8	578.5	577.6
10°	582.9	582.0	579.3	582.9	578.5	578.5	579.3	576.7	572.3	574.9	573.2
12.5°	580.2	580.2	576.7	580.2	574.0	574.0	574.9	571.4	567.9	567.9	566.1
15°	574.9	574.9	571.4	574.0	568.8	568.8	567.9	564.3	559.9	559.9	556.4
17.5°	568.8	568.8	565.2	567.9	561.7	561.7	560.8	555.5	549.4	548.5	544.1
20°	561.7	561.7	557.3	559.1	552.0	552.0	551.1	544.9	537.9	536.1	530.0
22.5°	551.1	551.1	546.7	547.6	540.5	539.7	538.8	531.7	524.7	522.0	514.1
25°	536.1	535.2	531.7	531.7	524.7	522.9	521.1	514.1	507.0	501.7	494.7
27.5°	514.1	515.0	510.6	511.4	502.6	500.9	500.0	491.2	483.2	477.9	470.9
30°	488.5	485.9	481.5	481.5	474.4	473.5	471.8	463.8	455.0	448.8	440.9
32.5°	452.4	451.5	447.1	447.1	439.1	439.1	435.6	427.7	419.7	416.2	408.3
35°	410.9	410.0	406.5	406.5	399.4	400.3	396.8	390.6	382.7	377.4	371.2
37.5°	368.6	367.7	364.2	365.1	358.9	358.9	356.2	350.1	343.9	341.3	333.3
40°	327.1	326.3	321.9	324.5	319.2	317.4	316.6	312.2	305.1	301.6	297.2
42.5°	289.2	290.1	285.7	287.5	283.1	281.3	280.4	276.9	271.6	268.1	263.7
45°	260.1	258.4	256.6	256.6	252.2	251.3	250.4	246.0	242.5	239.0	234.6
47.5°	232.8	231.0	229.3	230.1	226.6	225.7	224.0	220.4	216.0	214.3	209.9
50°	210.7	209.9	207.2	207.2	203.7	202.8	201.0	198.4	194.0	191.3	187.8
52.5°	190.5	190.5	187.8	186.9	184.3	183.4	182.5	179.0	175.5	171.9	168.4
55°	172.8	171.9	170.2	170.2	166.7	165.8	164.9	161.4	157.8	155.2	151.7
57.5°	156.1	156.1	154.3	154.3	151.7	149.9	149.9	146.4	142.0	140.2	135.8
60°	141.1	141.1	139.3	139.3	136.7	136.7	134.9	131.4	128.7	125.2	121.7
62.5°	127.0	127.9	126.1	125.2	122.6	121.7	121.7	119.0	114.6	112.0	108.5
65°	114.6	113.8	112.9	112.0	109.3	108.5	108.5	104.9	102.3	98.8	96.1
67.5°	101.4	101.4	99.6	99.6	97.9	97.0	95.2	92.6	89.9	87.3	84.7
70°	89.1	89.1	88.2	88.2	85.5	84.7	83.8	81.1	78.5	75.8	72.3
72.5°	77.6	76.7	75.8	75.8	74.1	73.2	72.3	69.7	67.0	64.4	61.7
75°	65.3	65.3	64.4	64.4	62.6	61.7	61.7	60.0	56.4	54.7	51.1
77.5°	54.7	54.7	53.8	53.8	52.0	52.0	51.1	48.5	46.7	44.1	42.3
80°	44.1	43.2	43.2	42.3	40.6	40.6	39.7	38.8	36.2	34.4	31.7
82.5°	30.9	30.9	30.9	30.0	29.1	29.1	28.2	26.5	24.7	23.8	21.2
85°	18.5	18.5	17.6	16.8	17.6	16.8	15.9	15.0	14.1	13.2	12.3
87.5°	7.9	7.9	7.1	7.1	7.1	7.1	7.1	6.2	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: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

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°	574.0	576.7	575.8	574.9	573.2	573.2	573.2	572.3	573.2	573.2	571.4
5°	574.0	575.8	574.9	573.2	571.4	571.4	570.5	568.8	568.8	568.8	565.2
7.5°	571.4	573.2	570.5	568.8	567.0	565.2	565.2	562.6	562.6	561.7	558.2
10°	566.1	567.0	563.5	561.7	559.1	558.2	556.4	552.9	552.0	551.1	547.6
12.5°	558.2	559.1	554.6	551.1	547.6	546.7	544.9	540.5	538.8	537.0	532.6
15°	546.7	546.7	541.4	537.0	533.5	532.6	528.2	523.8	522.0	520.3	514.1
17.5°	533.5	532.6	525.5	521.1	516.7	515.0	510.6	505.3	501.7	500.0	494.7
20°	519.4	516.7	508.8	504.4	499.1	496.4	492.0	485.0	481.5	477.9	472.6
22.5°	502.6	499.1	490.3	484.1	478.8	476.2	470.0	463.8	458.5	455.0	448.8
25°	482.3	477.9	468.2	460.3	455.9	453.2	447.1	440.0	434.7	429.4	424.1
27.5°	458.5	453.2	443.5	435.6	431.2	426.8	422.4	414.4	410.0	405.6	399.4
30°	429.4	423.3	414.4	407.4	402.1	398.6	393.3	386.2	380.9	378.3	372.1
32.5°	397.7	390.6	382.7	375.6	373.0	368.6	364.2	357.1	352.7	350.1	345.7
35°	362.4	357.1	348.3	343.0	338.6	336.8	333.3	326.3	324.5	321.9	316.6
37.5°	325.4	321.0	314.8	310.4	306.9	305.1	301.6	297.2	294.5	291.9	289.2
40°	291.0	287.5	282.2	278.6	274.2	271.6	271.6	266.3	264.5	264.5	261.9
42.5°	257.5	255.7	251.3	246.0	245.1	242.5	241.6	239.0	237.2	236.3	235.4
45°	229.3	226.6	222.2	219.6	216.9	216.9	214.3	211.6	210.7	209.9	209.0
47.5°	204.6	201.0	197.5	194.9	193.1	192.2	189.6	187.8	186.9	186.9	186.1
50°	182.5	179.9	176.4	173.7	171.9	170.2	168.4	166.7	165.8	164.9	164.9
52.5°	164.0	160.5	157.0	154.3	151.7	150.8	149.0	147.3	146.4	145.5	144.6
55°	147.3	144.6	140.2	137.6	134.9	134.9	132.3	129.6	127.9	127.0	126.1
57.5°	131.4	128.7	124.3	121.7	119.9	118.2	116.4	114.6	112.9	111.1	109.3
60°	117.3	114.6	110.2	106.7	105.8	104.1	102.3	98.8	97.0	95.2	93.5
62.5°	104.1	100.5	97.0	93.5	92.6	90.8	88.2	85.5	82.9	81.1	78.5
65°	91.7	89.1	84.7	82.0	79.4	78.5	75.8	72.3	69.7	67.9	65.3
67.5°	80.2	76.7	72.3	69.7	67.9	66.1	63.5	60.8	58.2	55.6	52.9
70°	68.8	66.1	61.7	59.1	57.3	55.6	52.9	49.4	46.7	44.1	42.3
72.5°	58.2	54.7	51.1	48.5	46.7	45.0	42.3	39.7	37.0	35.3	32.6
75°	48.5	45.0	42.3	38.8	37.9	36.2	33.5	30.9	28.2	26.5	24.7
77.5°	38.8	36.2	32.6	30.9	29.1	27.3	25.6	22.9	21.2	18.5	16.8
80°	29.1	26.5	23.8	22.0	20.3	19.4	17.6	15.9	14.1	12.3	11.5
82.5°	19.4	17.6	15.0	14.1	13.2	12.3	10.6	9.7	8.8	7.9	7.1
85°	10.6	9.7	8.8	7.1	7.1	6.2	5.3	5.3	4.4	4.4	3.5
87.5°	4.4	3.5	3.5	2.6	2.6	2.6	1.8	1.8	1.8	0.9	0.9
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: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

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°	572.3	568.8	568.8	568.8	566.1	567.0	567.9	568.8	567.9	565.2	567.9
5°	566.1	562.6	562.6	560.8	559.1	559.1	559.1	559.9	559.1	556.4	557.3
7.5°	558.2	553.8	552.9	551.1	549.4	548.5	548.5	548.5	547.6	544.1	545.8
10°	545.8	541.4	539.7	538.8	536.1	535.2	534.4	533.5	532.6	529.1	530.8
12.5°	530.8	527.3	523.8	522.9	520.3	518.5	517.6	517.6	515.8	512.3	514.1
15°	513.2	507.9	505.3	503.5	500.9	499.1	497.3	498.2	497.3	493.8	494.7
17.5°	492.0	486.7	484.1	483.2	479.7	477.9	477.0	477.0	476.2	472.6	473.5
20°	469.1	463.8	462.1	460.3	458.5	456.8	455.9	455.0	454.1	450.6	453.2
22.5°	446.2	440.0	437.4	437.4	433.8	433.0	432.1	433.0	432.1	428.5	430.3
25°	422.4	416.2	414.4	411.8	410.0	409.1	409.1	409.1	408.3	406.5	408.3
27.5°	395.9	391.5	388.9	388.0	386.2	385.3	384.5	385.3	385.3	382.7	384.5
30°	369.5	365.9	364.2	363.3	360.7	359.8	360.7	360.7	360.7	358.0	360.7
32.5°	343.0	340.4	339.5	336.8	335.1	335.1	335.1	336.0	335.1	333.3	336.0
35°	316.6	313.0	312.2	311.3	311.3	309.5	311.3	310.4	312.2	309.5	311.3
37.5°	288.3	286.6	285.7	285.7	283.9	284.8	284.8	284.8	286.6	283.9	285.7
40°	261.9	260.1	260.1	260.1	259.2	259.2	259.2	260.1	261.0	259.2	261.0
42.5°	235.4	234.6	234.6	233.7	232.8	233.7	234.6	234.6	235.4	233.7	234.6
45°	209.9	209.0	209.9	209.0	209.0	208.1	209.0	209.9	209.9	209.0	209.0
47.5°	186.1	186.1	185.2	185.2	185.2	185.2	185.2	185.2	185.2	183.4	185.2
50°	164.9	163.1	164.0	163.1	163.1	162.2	162.2	161.4	160.5	159.6	159.6
52.5°	144.6	142.8	142.8	142.0	141.1	141.1	140.2	139.3	138.4	136.7	136.7
55°	125.2	123.5	122.6	121.7	120.8	119.9	119.0	118.2	116.4	115.5	115.5
57.5°	107.6	105.8	104.1	104.1	102.3	101.4	99.6	97.9	97.0	95.2	95.2
60°	91.7	89.9	87.3	86.4	85.5	83.8	81.1	80.2	79.4	77.6	78.5
62.5°	76.7	74.1	71.4	70.5	69.7	67.9	66.1	64.4	63.5	64.4	64.4
65°	62.6	60.0	58.2	56.4	55.6	53.8	52.9	52.0	52.0	52.0	52.9
67.5°	50.3	47.6	45.9	45.0	43.2	42.3	42.3	42.3	42.3	42.3	42.3
70°	39.7	37.9	36.2	34.4	34.4	33.5	33.5	33.5	33.5	33.5	33.5
72.5°	30.0	28.2	27.3	27.3	26.5	26.5	26.5	26.5	25.6	25.6	26.5
75°	22.0	21.2	20.3	20.3	20.3	19.4	19.4	19.4	19.4	19.4	19.4
77.5°	15.9	15.0	15.0	14.1	14.1	14.1	14.1	14.1	14.1	13.2	13.2
80°	10.6	9.7	9.7	9.7	9.7	8.8	8.8	8.8	8.8	8.8	8.8
82.5°	6.2	6.2	6.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
85°	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	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: P274350

CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0H

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°	562.6	566.1	567.0	564.3	565.2	563.5	564.3	562.6
5°	552.9	555.5	556.4	554.6	554.6	552.9	553.8	552.0
7.5°	540.5	543.2	544.1	542.3	542.3	540.5	540.5	539.7
10°	526.4	527.3	529.1	526.4	527.3	525.5	525.5	523.8
12.5°	508.8	510.6	512.3	509.7	509.7	508.8	508.8	506.1
15°	490.3	492.0	492.9	491.2	491.2	490.3	489.4	488.5
17.5°	470.9	471.8	473.5	470.9	472.6	470.9	470.9	469.1
20°	448.8	451.5	452.4	449.7	450.6	449.7	449.7	449.7
22.5°	427.7	429.4	430.3	428.5	429.4	427.7	428.5	426.8
25°	405.6	406.5	407.4	405.6	407.4	406.5	405.6	405.6
27.5°	382.7	383.6	384.5	382.7	384.5	383.6	384.5	382.7
30°	358.0	359.8	361.5	359.8	360.7	359.8	359.8	358.9
32.5°	333.3	335.1	336.8	335.1	336.8	335.1	336.0	334.2
35°	310.4	311.3	312.2	310.4	311.3	311.3	311.3	310.4
37.5°	284.8	286.6	286.6	285.7	287.5	286.6	286.6	284.8
40°	260.1	261.0	261.9	260.1	261.0	260.1	261.0	260.1
42.5°	234.6	236.3	237.2	235.4	235.4	235.4	234.6	235.4
45°	208.1	209.9	211.6	209.0	209.9	209.9	209.9	209.0
47.5°	184.3	184.3	185.2	184.3	185.2	183.4	185.2	184.3
50°	159.6	159.6	161.4	159.6	159.6	159.6	159.6	159.6
52.5°	135.8	136.7	136.7	134.9	135.8	134.9	135.8	134.9
55°	113.8	113.8	114.6	113.8	113.8	113.8	113.8	113.8
57.5°	94.4	95.2	95.2	94.4	95.2	94.4	94.4	94.4
60°	78.5	78.5	78.5	77.6	78.5	77.6	78.5	77.6
62.5°	63.5	64.4	64.4	63.5	64.4	63.5	63.5	63.5
65°	52.0	52.0	52.0	52.0	52.0	52.0	52.0	51.1
67.5°	41.4	41.4	42.3	41.4	42.3	42.3	42.3	42.3
70°	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
72.5°	25.6	25.6	26.5	25.6	25.6	25.6	25.6	25.6
75°	19.4	19.4	19.4	19.4	19.4	18.5	18.5	19.4
77.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	14.1
80°	8.8	8.8	8.8	8.8	7.9	7.9	8.8	7.9
82.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
85°	2.6	2.6	1.8	1.8	1.8	1.8	1.8	1.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





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













(END OF REPORT)