

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: P274344

Luminaire Tested: **LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWWOLI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P274344  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI  
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, LENSED WALLWASH WITH SPECULAR FINISH  
Light Source: W2N 2700K-6500K CCT TUNING RANGE  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1093.4 lumens  
Efficiency: N/A  
Efficacy: 49.7 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

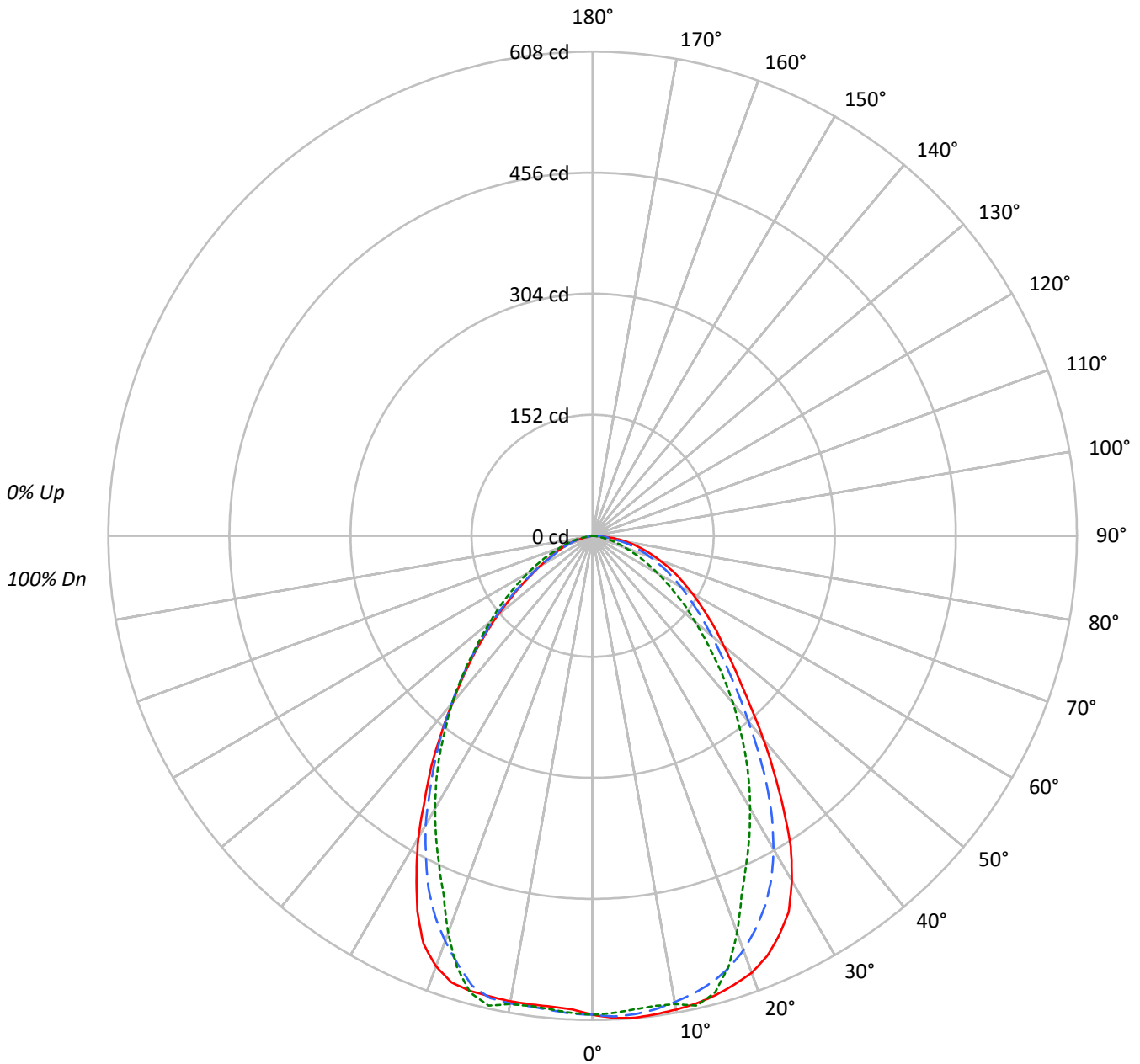
Input Watts (W): 22  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P274344

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**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	105	102	99	101	98	96	97	95	93	93	91	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53																			
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	58621	58621	58621
5°	59452	58415	58072
10°	59793	59090	58744
15°	60245	59892	59710
20°	60558	54978	59645
25°	59563	49035	55960
30°	56279	44474	49234
35°	49636	39773	41974
40°	42416	34897	34783
45°	36345	29784	29054
50°	32492	25411	23668
55°	29973	21732	18741
60°	28029	18400	14794
65°	26842	15266	12199
70°	25389	12310	10315
75°	24589	9979	7305
80°	23740	5444	1964
85°	20687	2907	1006



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.1	5.2
10°-20°	164.4	15.0
20°-30°	228.1	20.9
30°-40°	225.1	20.6
40°-50°	176.6	16.1
50°-60°	122.3	11.2
60°-70°	74.9	6.9
70°-80°	37.4	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°	449.6	41.1
0°-40°	674.7	61.7
0°-60°	973.6	89.0
0°-90°	1093.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1093.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	602	602	602	602	602	
5°	608	603	597	598	594	58
15°	597	580	594	585	592	169
25°	554	512	456	488	520	253
35°	417	381	334	345	353	260
45°	264	242	216	214	211	206
55°	176	158	128	114	110	159
65°	116	101	66	49	53	115
75°	65	55	26	20	19	69
85°	18	11	3	1	1	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5
2.5°	606.0	604.2	603.3	606.0	605.1	606.8	606.0	605.1	603.3	604.2	604.2
5°	607.7	605.1	604.2	606.0	606.0	607.7	606.8	605.1	603.3	604.2	603.3
7.5°	606.0	604.2	604.2	605.1	604.2	606.0	604.2	602.4	600.7	601.5	599.8
10°	604.2	601.5	601.5	601.5	601.5	603.3	601.5	598.9	596.3	596.3	594.5
12.5°	601.5	598.9	598.9	599.8	598.0	599.8	598.0	593.6	591.0	590.1	588.3
15°	597.1	594.5	594.5	594.5	592.7	593.6	591.0	586.6	583.0	583.0	580.4
17.5°	591.0	588.3	587.4	587.4	584.8	585.7	583.0	578.6	573.3	571.6	568.9
20°	583.9	580.4	578.6	578.6	576.0	576.8	573.3	568.0	561.0	558.3	553.9
22.5°	571.6	569.8	567.1	566.3	563.6	562.7	559.2	552.2	546.0	541.6	534.5
25°	553.9	553.0	550.4	549.5	546.0	544.2	540.7	532.7	526.6	519.5	512.5
27.5°	532.7	529.2	527.5	524.8	521.3	520.4	516.0	508.9	499.2	494.8	486.0
30°	500.1	498.3	496.6	493.9	490.4	488.6	486.0	478.1	470.1	462.2	454.2
32.5°	463.1	459.5	456.9	457.8	453.4	451.6	447.2	440.1	433.1	427.8	419.0
35°	417.2	416.3	415.4	413.7	410.1	409.3	405.7	400.4	392.5	386.3	381.0
37.5°	374.0	371.3	369.6	369.6	366.0	366.0	363.4	357.2	352.8	348.4	341.3
40°	333.4	329.0	329.0	329.0	325.5	326.4	324.6	318.4	314.0	308.7	304.3
42.5°	295.5	293.7	292.8	291.1	289.3	289.3	287.5	284.0	279.6	276.1	271.7
45°	263.7	262.8	262.0	261.1	259.3	258.4	257.6	252.3	249.6	246.1	241.7
47.5°	238.1	236.4	235.5	234.6	232.9	232.0	230.2	226.7	224.0	220.5	217.0
50°	214.3	213.5	212.6	212.6	210.8	209.9	208.2	205.5	201.1	199.3	194.9
52.5°	195.8	194.0	192.3	192.3	190.5	190.5	187.9	185.2	180.8	179.1	175.5
55°	176.4	175.5	174.6	174.6	172.9	172.0	171.1	167.6	164.1	161.4	157.9
57.5°	159.6	158.8	157.9	157.9	156.1	155.2	154.4	151.7	148.2	146.4	142.0
60°	143.8	143.8	142.9	142.0	141.1	140.2	139.4	136.7	134.1	131.4	127.9
62.5°	129.7	128.8	127.9	127.0	127.0	126.1	125.2	121.7	120.0	117.3	113.8
65°	116.4	114.7	114.7	113.8	113.8	112.9	112.0	108.5	106.7	104.1	100.6
67.5°	102.3	101.4	100.6	100.6	99.7	99.7	98.8	96.1	93.5	91.7	88.2
70°	89.1	89.1	88.2	88.2	87.3	86.4	86.4	84.7	82.0	79.4	75.9
72.5°	77.6	76.7	75.9	75.9	75.0	75.0	74.1	72.3	70.6	68.8	64.4
75°	65.3	64.4	64.4	64.4	63.5	63.5	62.6	60.9	59.1	57.3	54.7
77.5°	53.8	53.8	52.9	52.9	52.0	52.0	52.0	50.3	48.5	46.7	43.2
80°	42.3	42.3	42.3	41.5	40.6	40.6	40.6	38.8	37.0	35.3	32.6
82.5°	30.9	30.0	30.0	29.1	28.2	28.2	28.2	26.5	25.6	22.9	21.2
85°	18.5	17.6	17.6	16.8	15.9	15.9	15.9	15.0	13.2	12.3	10.6
87.5°	7.1	7.1	7.1	7.1	7.1	6.2	6.2	5.3	5.3	4.4	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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5
2.5°	604.2	603.3	603.3	602.4	603.3	601.5	601.5	601.5	601.5	599.8	599.8
5°	602.4	602.4	601.5	600.7	601.5	599.8	600.7	599.8	599.8	597.1	597.1
7.5°	598.9	598.0	596.3	595.4	596.3	595.4	595.4	595.4	597.1	595.4	595.4
10°	592.7	591.8	590.1	589.2	589.2	588.3	590.1	591.8	595.4	597.1	600.7
12.5°	586.6	584.8	583.9	583.9	584.8	584.8	588.3	592.7	601.5	604.2	607.7
15°	578.6	577.7	577.7	580.4	583.9	586.6	593.6	596.3	597.1	593.6	591.8
17.5°	568.0	568.0	568.9	571.6	574.2	574.2	575.1	573.3	571.6	567.1	561.9
20°	550.4	549.5	547.7	547.7	547.7	544.2	546.0	539.8	535.4	530.1	522.2
22.5°	528.3	523.9	517.8	513.3	510.7	508.9	504.5	497.5	492.2	488.6	485.1
25°	504.5	497.5	488.6	481.6	477.2	476.3	470.1	463.9	460.4	456.0	454.2
27.5°	477.2	469.2	458.7	451.6	448.1	445.4	440.1	434.0	429.5	426.0	423.4
30°	445.4	437.5	428.7	419.8	416.3	411.9	406.6	402.2	397.8	395.2	393.4
32.5°	410.1	402.2	393.4	387.2	382.8	379.3	374.9	370.5	366.9	365.2	363.4
35°	374.0	366.0	359.0	352.8	349.3	346.6	343.1	337.8	335.2	334.3	332.5
37.5°	335.2	329.9	323.7	318.4	315.8	312.2	310.5	306.1	306.1	302.5	302.5
40°	299.0	295.5	289.3	284.9	283.1	280.5	277.8	276.1	275.2	274.3	273.4
42.5°	267.3	262.0	258.4	254.9	252.3	250.5	250.5	247.9	247.0	244.3	243.4
45°	238.1	235.5	229.3	226.7	225.8	223.2	222.3	220.5	217.9	216.1	215.2
47.5°	212.6	209.9	206.4	202.9	201.1	199.3	197.6	194.9	193.2	190.5	189.6
50°	191.4	187.0	183.5	180.8	178.2	177.3	175.5	172.0	170.2	167.6	167.6
52.5°	172.0	168.5	164.1	161.4	158.8	157.0	154.4	151.7	149.1	148.2	145.5
55°	155.2	150.8	146.4	142.9	140.2	137.6	136.7	133.2	129.7	127.9	126.1
57.5°	139.4	135.0	129.7	125.2	123.5	121.7	119.1	115.5	112.9	110.3	108.5
60°	123.5	120.0	114.7	110.3	108.5	105.8	103.2	99.7	97.0	94.4	92.6
62.5°	110.3	105.0	100.6	96.1	93.5	91.7	88.2	85.6	82.0	79.4	76.7
65°	97.0	91.7	87.3	82.9	81.1	78.5	75.9	72.3	68.8	66.2	62.6
67.5°	83.8	79.4	75.0	70.6	68.8	67.0	63.5	60.0	56.5	53.8	50.3
70°	72.3	67.9	63.5	60.0	58.2	56.5	52.9	49.4	46.7	43.2	40.6
72.5°	61.7	58.2	53.8	50.3	48.5	46.7	43.2	40.6	37.0	35.3	32.6
75°	51.2	47.6	44.1	40.6	38.8	37.0	34.4	31.8	29.1	26.5	24.7
77.5°	40.6	37.0	33.5	30.9	29.1	28.2	25.6	22.9	20.3	18.5	15.9
80°	30.0	26.5	23.8	21.2	19.4	18.5	15.9	14.1	12.3	9.7	8.8
82.5°	18.5	15.9	14.1	12.3	11.5	10.6	8.8	7.1	6.2	5.3	4.4
85°	9.7	8.8	7.1	6.2	5.3	5.3	4.4	3.5	2.6	2.6	1.8
87.5°	3.5	2.6	2.6	1.8	1.8	1.8	1.8	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	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5
2.5°	598.0	598.9	599.8	600.7	599.8	599.8	601.5	598.0	600.7	600.7	597.1
5°	596.3	598.0	597.1	598.9	597.1	597.1	598.0	596.3	598.0	598.0	595.4
7.5°	594.5	596.3	596.3	597.1	596.3	596.3	597.1	594.5	596.3	596.3	593.6
10°	602.4	604.2	603.3	602.4	599.8	598.0	598.9	594.5	596.3	596.3	593.6
12.5°	605.1	604.2	600.7	598.9	597.1	595.4	596.3	592.7	594.5	594.5	592.7
15°	587.4	585.7	583.0	583.9	582.1	581.3	583.0	581.3	584.8	586.6	584.8
17.5°	557.4	556.6	554.8	554.8	554.8	555.7	558.3	558.3	563.6	567.1	568.9
20°	518.6	517.8	518.6	520.4	521.3	524.8	531.0	534.5	541.6	547.7	552.2
22.5°	483.4	485.1	487.8	491.3	492.2	496.6	504.5	508.1	516.9	523.9	528.3
25°	453.4	456.0	457.8	460.4	461.3	466.6	473.7	478.1	487.8	493.1	498.3
27.5°	423.4	426.9	427.8	431.3	431.3	436.6	442.8	447.2	453.4	458.7	463.1
30°	394.3	395.2	397.8	398.7	400.4	405.7	409.3	411.9	419.0	421.6	424.3
32.5°	362.5	366.0	367.8	368.7	367.8	372.2	375.7	377.5	380.2	383.7	385.4
35°	332.5	334.3	335.2	336.9	337.8	338.7	340.5	341.3	344.9	345.8	346.6
37.5°	302.5	305.2	304.3	305.2	305.2	306.1	307.8	306.9	309.6	310.5	309.6
40°	272.5	272.5	274.3	273.4	274.3	273.4	275.2	275.2	275.2	276.1	275.2
42.5°	242.6	243.4	242.6	244.3	242.6	243.4	243.4	242.6	243.4	242.6	242.6
45°	215.2	215.2	215.2	215.2	213.5	213.5	215.2	214.3	213.5	212.6	211.7
47.5°	188.8	189.6	187.9	188.8	187.9	187.0	186.1	186.1	185.2	183.5	182.6
50°	166.7	164.9	164.1	164.9	164.1	163.2	162.3	160.5	159.6	157.9	157.0
52.5°	144.7	142.9	141.1	141.1	140.2	138.5	137.6	135.8	135.0	133.2	133.2
55°	125.2	123.5	121.7	120.8	119.1	117.3	116.4	114.7	113.8	112.0	110.3
57.5°	106.7	104.1	102.3	101.4	100.6	97.9	97.0	95.3	93.5	91.7	90.8
60°	90.0	87.3	84.7	83.8	82.9	80.3	79.4	76.7	75.9	74.1	73.2
62.5°	74.1	72.3	68.8	67.9	66.2	64.4	61.7	60.9	60.0	60.9	60.9
65°	60.0	57.3	54.7	53.8	52.0	50.3	49.4	48.5	49.4	49.4	50.3
67.5°	47.6	45.0	42.3	42.3	41.5	39.7	39.7	39.7	40.6	40.6	41.5
70°	37.9	36.2	34.4	33.5	33.5	32.6	33.5	33.5	34.4	34.4	34.4
72.5°	30.0	29.1	28.2	27.3	27.3	27.3	27.3	27.3	27.3	27.3	28.2
75°	22.9	22.1	21.2	21.2	20.3	20.3	20.3	20.3	20.3	20.3	19.4
77.5°	15.0	14.1	13.2	13.2	12.3	11.5	11.5	10.6	10.6	10.6	10.6
80°	7.9	7.1	6.2	5.3	5.3	4.4	4.4	4.4	4.4	3.5	3.5
82.5°	3.5	2.6	2.6	2.6	2.6	1.8	1.8	1.8	1.8	1.8	1.8
85°	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
87.5°	0.0	0.0	0.0	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	0.0	0.0	0.0





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CATALOG NUMBER: LD4B15DE010W2N2765 EU4B1020W2N902765 4LBLWW0LI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	601.5	601.5	601.5	601.5	601.5	601.5	601.5	601.5
2.5°	598.9	597.1	598.9	599.8	598.0	597.1	598.9	595.4
5°	598.0	595.4	596.3	597.1	595.4	594.5	596.3	593.6
7.5°	596.3	595.4	596.3	597.1	594.5	594.5	596.3	593.6
10°	596.3	594.5	595.4	597.1	595.4	595.4	597.1	593.6
12.5°	595.4	592.7	595.4	596.3	594.5	594.5	596.3	592.7
15°	589.2	589.2	590.1	591.8	591.0	591.8	594.5	591.8
17.5°	576.0	577.7	581.3	583.9	585.7	587.4	590.1	588.3
20°	560.1	562.7	567.1	569.8	573.3	574.2	578.6	575.1
22.5°	535.4	540.7	544.2	546.9	549.5	552.2	555.7	554.8
25°	505.4	508.9	511.6	514.2	517.8	519.5	521.3	520.4
27.5°	469.2	471.0	474.5	476.3	478.1	479.8	483.4	478.9
30°	429.5	430.4	432.2	434.8	434.8	436.6	438.4	437.5
32.5°	389.0	389.0	390.7	392.5	391.6	392.5	396.0	391.6
35°	349.3	348.4	351.0	351.9	351.9	351.0	353.7	352.8
37.5°	310.5	311.4	312.2	313.1	311.4	313.1	313.1	311.4
40°	275.2	274.3	276.1	277.0	276.1	277.0	277.0	273.4
42.5°	243.4	241.7	242.6	243.4	242.6	243.4	242.6	240.8
45°	212.6	211.7	211.7	212.6	210.8	210.8	210.8	210.8
47.5°	183.5	182.6	183.5	183.5	181.7	181.7	182.6	181.7
50°	157.0	156.1	156.1	156.1	155.2	155.2	156.1	156.1
52.5°	133.2	131.4	131.4	131.4	131.4	131.4	132.3	130.5
55°	109.4	109.4	109.4	109.4	110.3	110.3	110.3	110.3
57.5°	90.0	90.8	90.8	91.7	90.8	91.7	91.7	90.8
60°	75.0	74.1	75.0	75.0	75.9	75.9	75.9	75.9
62.5°	61.7	61.7	61.7	62.6	62.6	62.6	63.5	62.6
65°	51.2	51.2	52.0	52.0	52.0	52.9	52.9	52.9
67.5°	42.3	42.3	42.3	42.3	43.2	43.2	44.1	43.2
70°	35.3	35.3	35.3	35.3	35.3	36.2	36.2	36.2
72.5°	28.2	28.2	28.2	28.2	29.1	29.1	29.1	29.1
75°	19.4	19.4	19.4	20.3	19.4	19.4	19.4	19.4
77.5°	9.7	9.7	9.7	9.7	9.7	8.8	8.8	8.8
80°	3.5	3.5	3.5	3.5	3.5	3.5	2.6	3.5
82.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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



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















(END OF REPORT)