

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: PORTFOLIO

Report Number: P858424

Luminaire Tested: **LD4C15W2N2765D010 4LBSWNL1\_4000K**

Issue Date: 11/9/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P858424  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 11/9/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C15W2N2765D010 4LBSWNL\_4000K  
Description: 4 INCH 1500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, W2N2765 LEDS AND 4LBSWNL TRIM WITH FINISH  
  
Light Source: -  
Ballast/Driver: -

**Summary**

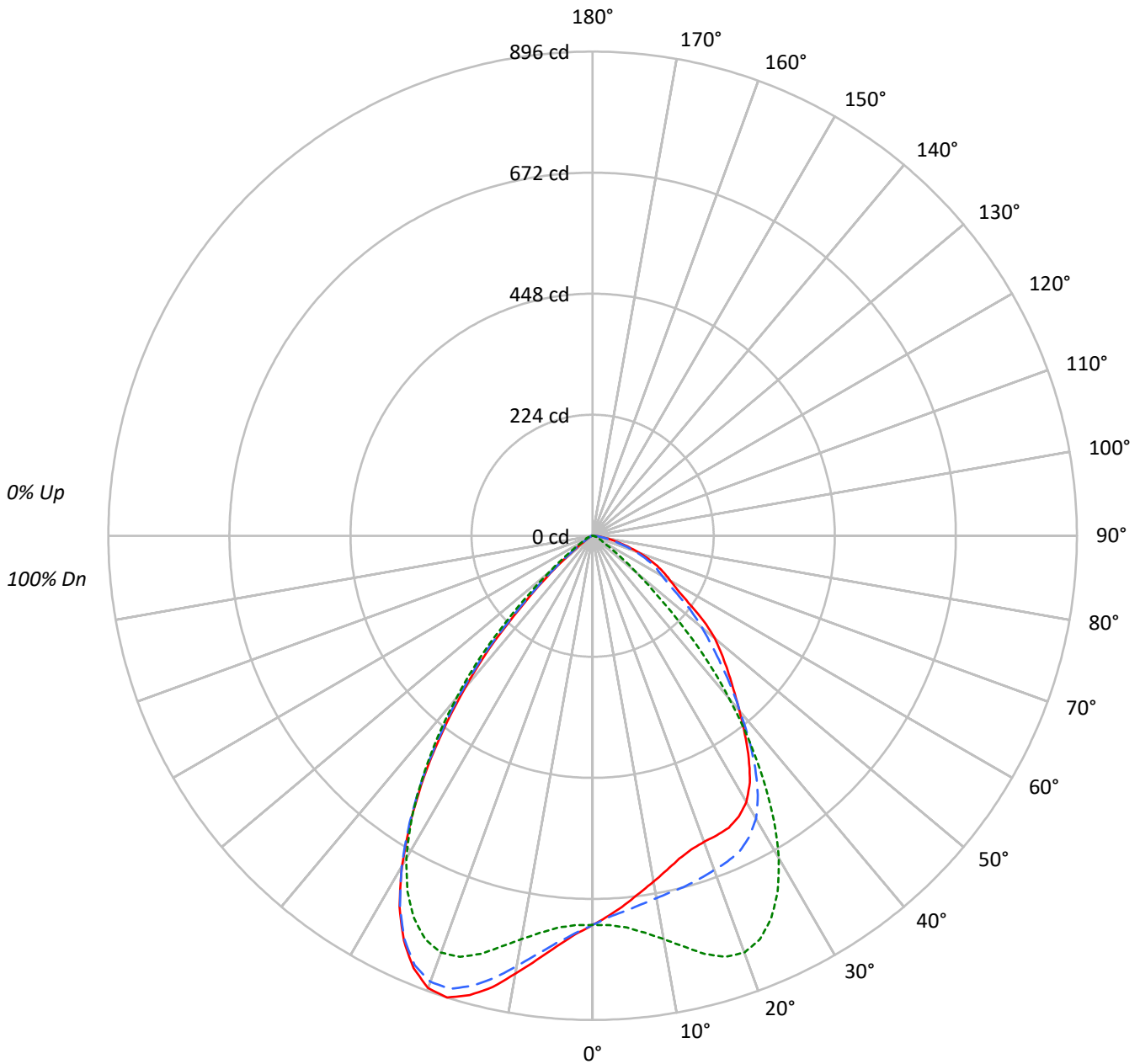
Lumens per Lamp: N/A  
Luminaire Lumens: 1329.0 lumens  
Efficiency: N/A  
Efficacy: 69.2 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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





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**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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72					72			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58					58			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53					53			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48					48			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44					44			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40					40			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37					37			

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

	0°	90°	180°
0°	88479	88479	88479
5°	84525	89742	94034
10°	81049	94535	102631
15°	78678	101877	111925
20°	78796	107310	116409
25°	80804	105908	112022
30°	80689	97755	100025
35°	75573	82622	81497
40°	67694	63027	58809
45°	61417	40013	32837
50°	56420	20298	14010
55°	46329	9060	4626
60°	40665	5086	2555
65°	38256	3837	1919
70°	32759	3053	1688
75°	24968	2231	1329
80°	17970	1344	707
85°	13250	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.0	5.3
10°-20°	218.0	16.4
20°-30°	337.3	25.4
30°-40°	332.3	25.0
40°-50°	204.1	15.4
50°-60°	90.7	6.8
60°-70°	50.7	3.8
70°-80°	21.9	1.7
80°-90°	3.9	0.3
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°	625.3	47.0
0°-40°	957.6	72.1
0°-60°	1252.5	94.2
0°-90°	1329.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1329.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	720	720	720	720	720	
5°	685	697	728	756	762	64
15°	619	670	801	862	880	176
25°	596	644	781	824	826	274
35°	504	525	551	549	543	313
45°	354	336	230	201	189	274
55°	216	196	42	24	22	199
65°	132	118	13	8	7	129
75°	53	45	5	3	3	58
85°	9	8	0	0	0	12
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°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	703.2	703.2	703.2	703.2	705.1	702.3	705.1	705.1	708.0	708.9	706.1
5°	685.4	684.5	685.4	685.4	687.3	686.3	689.1	691.0	694.8	696.7	696.7
7.5°	666.6	666.6	666.6	668.5	671.3	670.4	673.2	676.0	681.6	685.4	688.2
10°	649.7	648.7	651.5	652.5	655.3	655.3	660.0	662.8	669.4	676.9	680.7
12.5°	633.7	632.7	634.6	637.5	642.1	642.1	645.9	650.6	660.0	668.5	675.0
15°	618.6	619.6	622.4	624.3	629.9	629.9	634.6	640.3	650.6	661.0	670.4
17.5°	608.3	609.2	611.1	613.9	619.6	619.6	624.3	630.9	642.1	653.4	664.7
20°	602.7	603.6	605.5	608.3	613.0	613.9	617.7	625.2	635.5	647.8	658.1
22.5°	599.9	601.7	603.6	605.5	610.2	610.2	614.9	620.5	630.9	643.1	652.5
25°	596.1	597.9	598.9	601.7	605.5	605.5	608.3	614.9	624.3	634.6	644.0
27.5°	585.7	587.6	588.5	591.4	595.1	594.2	597.9	602.7	611.1	620.5	628.0
30°	568.8	569.8	571.6	572.6	575.4	575.4	578.2	582.9	588.5	597.0	604.5
32.5°	541.5	543.4	544.4	545.3	548.1	547.2	548.1	550.9	556.6	564.1	568.8
35°	503.9	507.7	507.7	509.6	510.5	509.6	509.6	513.3	516.2	521.8	524.6
37.5°	462.6	465.4	464.4	466.3	467.3	464.4	466.3	467.3	471.0	473.8	474.8
40°	422.1	423.1	423.1	423.1	423.1	422.1	423.1	424.0	426.8	426.8	424.0
42.5°	385.5	386.4	386.4	384.5	386.4	385.5	385.5	385.5	385.5	381.7	378.9
45°	353.5	354.5	354.5	353.5	353.5	351.6	350.7	349.7	346.9	342.2	335.6
47.5°	323.4	325.3	326.2	324.4	323.4	321.5	321.5	315.9	312.1	306.5	297.1
50°	295.2	297.1	297.1	295.2	295.2	292.4	289.6	287.7	282.0	275.5	264.2
52.5°	259.5	262.3	262.3	261.4	261.4	257.6	256.7	252.9	248.2	240.7	231.3
55°	216.3	220.0	219.1	218.1	216.3	216.3	216.3	213.4	210.6	204.9	195.6
57.5°	185.2	186.2	186.2	185.2	185.2	183.3	183.3	180.5	179.6	173.9	166.4
60°	165.5	165.5	166.4	165.5	164.5	163.6	162.7	160.8	157.9	154.2	148.6
62.5°	149.5	150.4	150.4	149.5	148.6	147.6	146.7	144.8	142.9	140.1	134.4
65°	131.6	133.5	132.6	131.6	130.7	129.7	129.7	127.9	126.0	124.1	118.5
67.5°	111.9	112.8	113.7	111.9	111.9	110.9	110.9	109.1	108.1	104.4	100.6
70°	91.2	92.1	92.1	91.2	91.2	90.2	90.2	89.3	88.4	85.6	81.8
72.5°	71.5	72.4	71.5	70.5	70.5	70.5	69.6	68.6	67.7	65.8	63.0
75°	52.6	52.6	53.6	52.6	51.7	51.7	50.8	50.8	48.9	48.0	45.1
77.5°	37.6	38.5	37.6	37.6	36.7	35.7	35.7	34.8	34.8	33.9	32.0
80°	25.4	25.4	26.3	25.4	24.5	25.4	24.5	23.5	23.5	22.6	20.7
82.5°	16.0	16.9	16.0	16.0	16.0	16.0	16.0	15.0	15.0	14.1	13.2
85°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	8.5	8.5	8.5	7.5
87.5°	4.7	4.7	3.8	3.8	4.7	4.7	4.7	3.8	3.8	3.8	3.8
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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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	709.8	710.8	712.6	715.5	715.5	713.6	718.3	718.3	720.2	721.1	724.9
5°	702.3	704.2	708.0	712.6	713.6	712.6	719.2	722.1	724.9	727.7	733.3
7.5°	695.7	699.5	706.1	712.6	715.5	715.5	725.8	729.6	735.2	740.9	747.5
10°	692.0	697.6	707.0	717.4	720.2	723.0	735.2	742.7	750.2	757.8	767.2
12.5°	687.3	697.6	709.8	723.0	728.6	732.4	749.3	758.7	769.1	778.5	790.7
15°	686.3	698.6	714.6	731.5	739.0	744.6	763.4	776.6	788.8	801.0	813.3
17.5°	682.6	697.6	717.4	736.2	745.6	753.1	774.7	790.7	804.8	817.0	831.1
20°	677.9	694.8	716.4	737.1	747.5	755.0	778.5	793.5	809.5	820.8	833.9
22.5°	671.3	688.2	709.8	730.5	739.9	746.5	770.0	783.2	797.3	808.6	820.8
25°	660.0	676.0	694.8	711.7	721.1	726.7	747.5	759.7	770.0	781.3	792.6
27.5°	644.0	656.2	672.2	684.5	690.1	695.7	712.6	723.0	732.4	741.8	749.3
30°	615.8	625.2	636.5	646.9	652.5	653.4	669.4	675.0	682.6	689.1	694.8
32.5°	578.2	585.7	592.3	597.9	601.7	602.7	614.9	616.8	624.3	624.3	632.7
35°	530.3	534.0	538.7	538.7	541.5	538.7	547.2	549.1	550.0	550.9	557.5
37.5°	475.7	477.6	480.4	474.8	474.8	472.0	474.8	476.7	472.9	472.9	477.6
40°	424.0	420.2	416.5	410.9	408.1	402.4	402.4	397.7	394.9	393.0	393.9
42.5°	374.2	365.7	357.3	345.0	339.4	333.8	328.1	321.5	319.7	315.0	312.1
45°	326.2	314.0	302.7	283.0	271.7	266.1	253.9	240.7	232.2	230.3	222.8
47.5°	285.8	267.9	249.2	225.6	214.4	204.0	186.2	174.9	163.6	157.9	153.2
50°	250.1	234.1	209.7	184.3	170.2	159.8	140.1	126.9	114.7	106.2	100.6
52.5°	219.1	201.2	178.6	149.5	135.4	124.1	102.5	87.4	77.1	68.6	62.1
55°	184.3	170.2	147.6	120.3	106.2	93.1	74.3	58.3	48.0	42.3	37.6
57.5°	158.9	146.7	125.1	98.7	85.6	73.3	54.5	41.4	32.9	27.3	24.5
60°	142.0	130.7	111.9	86.5	74.3	63.0	45.1	32.9	25.4	20.7	18.8
62.5°	127.9	116.6	99.7	76.1	65.8	54.5	38.5	27.3	20.7	16.9	14.1
65°	111.9	101.6	86.5	65.8	56.4	47.0	32.9	22.6	16.9	13.2	11.3
67.5°	95.0	85.6	72.4	54.5	47.0	39.5	26.3	18.8	14.1	11.3	9.4
70°	77.1	69.6	57.4	44.2	37.6	31.0	21.6	15.0	10.4	8.5	7.5
72.5°	59.2	52.6	44.2	33.9	28.2	23.5	16.0	11.3	8.5	6.6	5.6
75°	42.3	37.6	31.0	24.5	20.7	16.9	12.2	8.5	5.6	4.7	3.8
77.5°	29.1	26.3	21.6	16.9	14.1	12.2	8.5	5.6	4.7	3.8	2.8
80°	18.8	16.9	14.1	10.4	8.5	7.5	4.7	3.8	2.8	1.9	1.9
82.5°	11.3	10.4	8.5	5.6	4.7	3.8	2.8	1.9	1.9	1.0	1.0
85°	6.6	5.6	3.8	2.8	2.8	1.9	1.9	1.0	1.0	0.0	0.0
87.5°	2.8	1.9	1.9	1.0	1.0	1.0	1.0	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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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	723.0	727.7	726.7	729.6	728.6	728.6	733.3	731.5	736.2	736.2	737.1
5°	733.3	739.9	739.9	744.6	743.7	745.6	750.2	750.2	755.9	757.8	757.8
7.5°	748.4	756.8	758.7	763.4	764.4	768.1	771.9	772.8	780.3	782.2	783.2
10°	769.1	779.4	782.2	786.9	788.8	792.6	797.3	799.2	808.6	809.5	813.3
12.5°	794.5	805.7	808.6	814.2	815.2	819.8	826.4	828.3	837.7	840.5	843.3
15°	818.9	829.2	833.9	839.6	840.5	846.2	851.8	853.7	862.2	865.9	868.7
17.5°	835.8	848.0	850.9	858.4	858.4	863.1	868.7	870.6	879.1	881.9	883.8
20°	839.6	850.9	854.6	860.3	861.2	864.0	868.7	870.6	878.1	879.1	881.9
22.5°	825.5	836.8	838.7	844.3	845.2	848.0	851.8	850.9	860.3	859.3	860.3
25°	795.4	805.7	805.7	812.3	811.4	814.2	816.1	815.2	823.6	823.6	823.6
27.5°	752.1	761.6	762.5	767.2	764.4	765.3	767.2	766.2	771.9	771.9	771.9
30°	698.6	706.1	703.2	707.0	705.1	707.0	705.1	704.2	706.1	708.0	707.0
32.5°	631.8	637.5	637.5	638.4	638.4	632.7	630.9	630.9	629.9	629.0	629.0
35°	554.7	559.4	557.5	557.5	556.6	550.9	548.1	546.3	549.1	543.4	547.2
37.5°	475.7	476.7	473.8	472.9	468.2	468.2	463.5	459.7	461.6	460.7	456.9
40°	389.2	393.0	387.4	385.5	388.3	384.5	379.8	375.1	378.9	374.2	376.1
42.5°	304.6	303.7	301.8	301.8	301.8	296.2	295.2	294.3	295.2	291.5	288.6
45°	220.0	217.2	214.4	214.4	210.6	208.7	208.7	205.9	201.2	201.2	195.6
47.5°	148.6	142.0	140.1	139.2	137.3	137.3	135.4	133.5	132.6	127.9	127.9
50°	96.8	90.2	88.4	87.4	88.4	86.5	84.6	82.7	80.9	79.9	78.1
52.5°	58.3	55.5	53.6	52.6	50.8	49.8	48.9	47.0	46.1	46.1	45.1
55°	34.8	32.0	28.2	28.2	28.2	27.3	26.3	25.4	24.5	24.5	23.5
57.5°	21.6	19.7	17.9	16.9	16.9	16.9	16.0	16.0	16.0	16.0	15.0
60°	16.0	14.1	13.2	13.2	13.2	12.2	12.2	12.2	12.2	11.3	11.3
62.5°	12.2	11.3	10.4	10.4	9.4	9.4	9.4	9.4	9.4	9.4	8.5
65°	10.4	8.5	8.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
67.5°	7.5	6.6	6.6	6.6	6.6	5.6	5.6	5.6	5.6	5.6	5.6
70°	5.6	5.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	4.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	3.8	3.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: LD4C15W2N2765D010 4LBSWNL1\_4000K

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	737.1	741.8	737.1	737.1	739.9	739.0	740.9	738.1
5°	758.7	765.3	760.6	759.7	764.4	763.4	764.4	762.5
7.5°	785.1	791.7	786.9	786.9	791.7	790.7	793.5	791.7
10°	815.2	822.7	816.1	817.0	823.6	822.7	822.7	822.7
12.5°	846.2	853.7	849.9	849.9	854.6	855.6	856.5	855.6
15°	871.5	879.1	874.4	874.4	880.9	880.0	880.9	880.0
17.5°	886.6	894.1	888.5	888.5	894.1	894.1	895.0	896.0
20°	882.8	891.3	886.6	884.7	891.3	891.3	890.4	890.4
22.5°	861.2	868.7	865.0	863.1	867.8	865.9	865.0	865.9
25°	823.6	831.1	823.6	823.6	827.3	826.4	827.3	826.4
27.5°	772.8	778.5	771.0	770.0	773.8	771.9	771.0	773.8
30°	705.1	710.8	707.0	704.2	708.9	706.1	704.2	705.1
32.5°	628.0	631.8	629.9	625.2	628.0	626.2	625.2	626.2
35°	543.4	548.1	540.6	539.7	544.4	540.6	538.7	543.4
37.5°	456.0	461.6	455.1	456.0	453.2	454.1	452.2	455.1
40°	373.2	372.3	370.4	369.5	370.4	367.6	369.5	366.7
42.5°	283.9	285.8	284.9	283.9	284.9	281.1	279.2	283.0
45°	197.4	196.5	194.6	192.7	192.7	191.8	191.8	189.0
47.5°	126.9	126.0	122.2	123.2	125.1	123.2	120.3	124.1
50°	77.1	76.1	76.1	75.2	77.1	75.2	73.3	73.3
52.5°	43.2	43.2	42.3	42.3	42.3	42.3	41.4	40.4
55°	23.5	22.6	22.6	22.6	21.6	21.6	21.6	21.6
57.5°	15.0	15.0	15.0	15.0	15.0	15.0	14.1	14.1
60°	11.3	11.3	11.3	11.3	10.4	11.3	10.4	10.4
62.5°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
65°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
67.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
70°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)