

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: P880554

Luminaire Tested: **LD4C20D010 EU4209035 4LBDWNH**

Issue Date: 10/4/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P880554  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/4/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20D010 EU4209035 4LBDWNH  
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS  
AND 4LBDWN TRIM WITH H FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

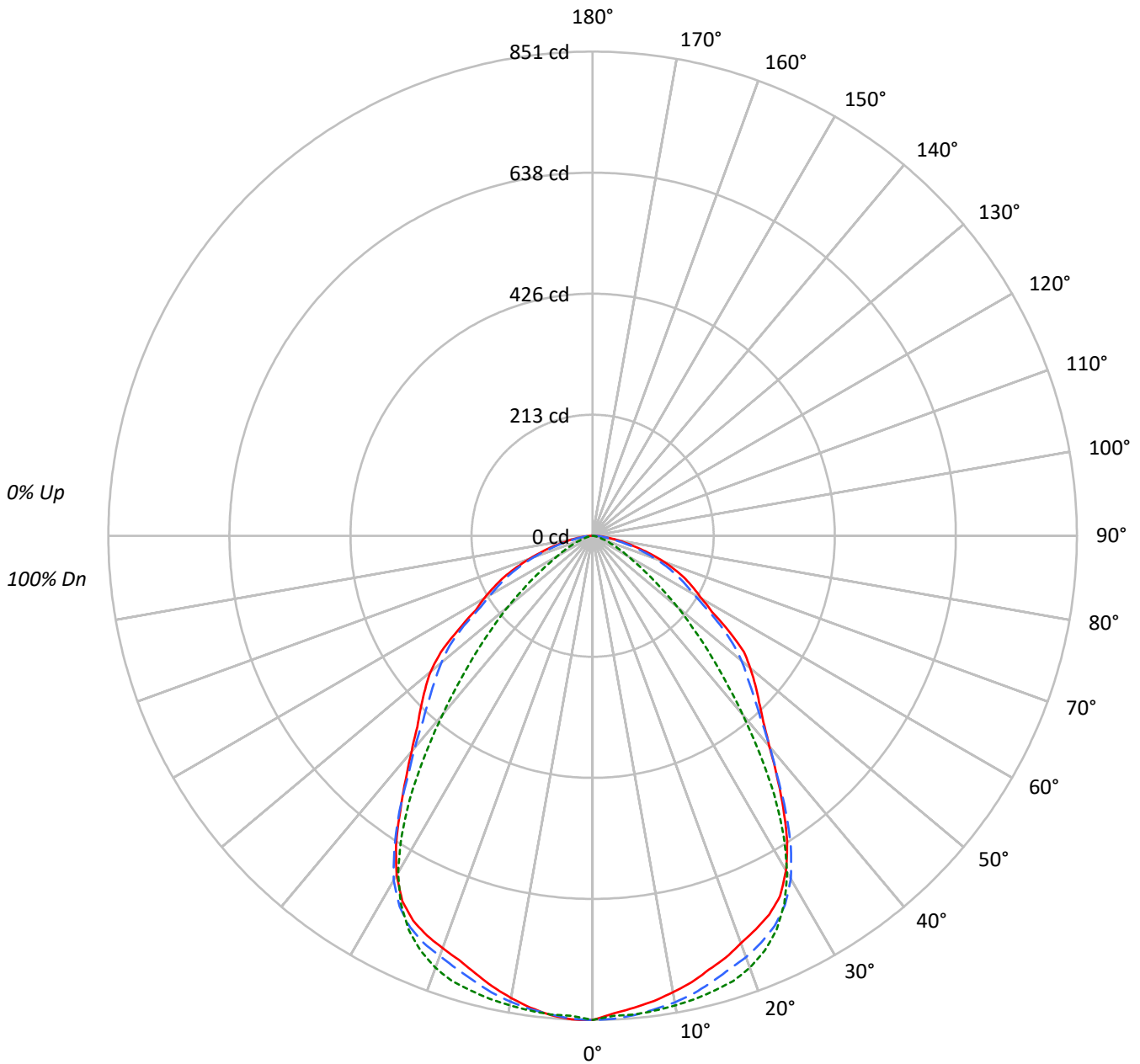
Lumens per Lamp: N/A  
Luminaire Lumens: 1732.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.8  
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	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°	104548	104548	104548
5°	102691	104146	104306
10°	101595	104539	102905
15°	100414	105235	101241
20°	99622	105623	100812
25°	99564	103644	101164
30°	96393	96961	97698
35°	87571	83462	88366
40°	77477	65721	79369
45°	71877	50037	74153
50°	69073	37040	71061
55°	62543	25531	61686
60°	54375	17371	54056
65°	52529	12558	49854
70°	47486	8477	42314
75°	39160	5601	33559
80°	31483	3679	24974
85°	25936	1832	16633



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.3	4.6
10°-20°	229.7	13.3
20°-30°	347.0	20.0
30°-40°	363.2	21.0
40°-50°	294.1	17.0
50°-60°	213.9	12.4
60°-70°	132.0	7.6
70°-80°	59.6	3.4
80°-90°	12.1	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°	657.1	37.9
0°-40°	1020.2	58.9
0°-60°	1528.3	88.2
0°-90°	1732.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1732.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	851	851	851	851	851	
5°	833	846	844	844	846	79
15°	790	812	827	809	796	223
25°	734	757	765	759	746	337
35°	584	592	556	592	589	364
45°	414	401	288	406	427	322
55°	292	274	119	276	288	260
65°	181	162	43	160	172	177
75°	82	71	12	62	71	89
85°	18	14	1	10	12	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°	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0
2.5°	840.6	840.6	848.4	857.5	849.7	841.8	847.1	844.5	853.7	853.7	849.7
5°	832.7	835.3	841.8	849.7	843.2	835.3	841.8	839.3	848.4	848.4	845.8
7.5°	824.9	826.1	834.0	843.2	836.6	828.8	834.0	832.7	840.6	841.8	839.3
10°	814.4	815.7	823.6	832.7	826.1	819.6	824.9	823.6	834.0	834.0	832.7
12.5°	803.9	805.2	813.1	820.9	814.4	807.9	813.1	813.1	823.6	824.9	823.6
15°	789.5	792.1	798.7	806.5	802.6	794.7	800.0	800.0	809.2	811.7	811.7
17.5°	777.7	779.0	785.6	793.5	788.2	781.6	786.8	786.8	796.0	798.7	798.7
20°	762.0	764.6	771.1	779.0	775.1	769.9	773.8	773.8	784.3	786.8	788.2
22.5°	748.9	751.5	756.7	767.3	760.7	756.7	762.0	760.7	772.5	773.8	773.8
25°	734.5	737.2	743.7	750.2	746.3	742.4	746.3	746.3	755.4	756.7	756.7
27.5°	713.6	714.9	721.4	728.0	724.0	718.8	724.0	722.8	731.9	733.2	731.9
30°	679.5	682.2	684.7	693.9	690.0	686.0	691.3	688.7	697.9	697.9	696.5
32.5°	636.3	636.3	641.6	648.1	642.9	640.2	644.2	645.5	652.1	652.1	648.1
35°	583.9	586.6	590.5	594.4	590.5	587.9	591.8	590.5	598.3	595.7	591.8
37.5°	531.6	532.9	536.8	542.1	536.8	532.9	534.2	532.9	539.4	539.4	532.9
40°	483.1	485.8	488.4	493.6	488.4	485.8	487.1	483.1	491.0	488.4	484.4
42.5°	443.8	445.1	449.1	451.7	446.5	445.1	446.5	443.8	447.8	445.1	437.3
45°	413.7	413.7	415.1	418.9	413.7	412.4	412.4	409.8	413.7	408.5	400.7
47.5°	387.5	388.8	390.2	392.8	388.8	385.0	386.3	381.0	383.6	379.7	369.2
50°	361.4	364.0	365.3	367.9	364.0	361.4	362.7	357.4	357.4	350.9	341.7
52.5°	335.2	336.5	335.2	337.8	335.2	331.3	332.6	327.3	327.3	319.5	310.3
55°	292.0	293.3	294.6	297.2	294.6	290.7	293.3	289.4	289.4	284.1	273.6
57.5°	248.7	250.1	251.4	252.7	252.7	250.1	251.4	248.7	247.4	243.5	235.7
60°	221.3	221.3	221.3	222.6	221.3	220.0	220.0	217.3	217.3	212.1	204.3
62.5°	200.3	201.6	201.6	202.9	201.6	200.3	199.0	196.4	195.1	189.9	183.3
65°	180.7	180.7	179.4	182.0	180.7	179.4	179.4	176.7	174.2	168.9	162.3
67.5°	157.1	158.4	157.1	158.4	158.4	157.1	155.8	153.2	151.9	147.9	140.1
70°	132.2	132.2	132.2	133.6	132.2	132.2	133.6	129.6	128.3	123.0	116.5
72.5°	107.3	108.7	108.7	107.3	108.7	106.0	106.0	106.0	104.8	99.5	92.9
75°	82.5	83.8	83.8	85.1	83.8	82.5	82.5	81.2	79.9	75.9	70.7
77.5°	61.5	61.5	62.8	62.8	62.8	61.5	61.5	58.9	58.9	56.3	51.1
80°	44.5	44.5	43.2	44.5	44.5	43.2	43.2	41.9	41.9	39.3	35.3
82.5°	28.8	30.1	30.1	30.1	30.1	28.8	28.8	28.8	27.5	26.2	23.6
85°	18.4	18.4	18.4	18.4	19.6	18.4	19.6	18.4	18.4	15.7	14.4
87.5°	7.9	7.9	7.9	9.2	9.2	7.9	7.9	7.9	7.9	7.9	6.5
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°	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0
2.5°	849.7	851.0	847.1	852.3	848.4	849.7	851.0	849.7	844.5	844.5	858.9
5°	844.5	847.1	843.2	849.7	847.1	847.1	849.7	848.4	843.2	844.5	857.5
7.5°	839.3	843.2	840.6	847.1	843.2	843.2	845.8	845.8	840.6	841.8	853.7
10°	831.4	836.6	835.3	841.8	838.0	838.0	841.8	841.8	836.6	838.0	849.7
12.5°	824.9	830.1	828.8	835.3	832.7	834.0	835.3	838.0	831.4	834.0	844.5
15°	814.4	819.6	819.6	826.1	823.6	826.1	828.8	832.7	827.4	827.4	838.0
17.5°	802.6	809.2	809.2	814.4	814.4	815.7	820.9	824.9	819.6	820.9	830.1
20°	789.5	797.4	797.4	803.9	802.6	805.2	809.2	813.1	807.9	807.9	818.3
22.5°	776.4	783.0	784.3	788.2	788.2	789.5	793.5	796.0	789.5	789.5	800.0
25°	758.1	764.6	765.9	768.6	765.9	765.9	768.6	771.1	764.6	764.6	773.8
27.5°	733.2	739.7	739.7	738.5	735.8	737.2	735.8	737.2	730.6	729.3	738.5
30°	696.5	700.4	700.4	699.2	695.2	695.2	691.3	692.6	683.5	683.5	691.3
32.5°	646.8	650.7	648.1	645.5	640.2	637.6	635.0	633.7	624.5	624.5	633.7
35°	587.9	590.5	586.6	581.4	574.8	570.8	566.9	561.7	555.1	556.5	561.7
37.5°	527.7	527.7	522.4	512.0	506.7	500.1	493.6	493.6	483.1	481.8	485.8
40°	476.6	471.4	462.2	447.8	438.6	432.1	422.9	417.7	409.8	409.8	416.4
42.5°	430.8	420.3	408.5	388.8	379.7	371.8	360.1	354.9	345.7	344.3	348.3
45°	390.2	379.7	362.7	341.7	330.0	320.8	303.7	297.2	289.4	288.0	290.7
47.5°	357.4	345.7	324.7	297.2	285.4	273.6	256.6	247.4	240.9	237.0	240.9
50°	328.6	312.9	290.7	261.9	246.2	235.7	214.7	205.6	196.4	193.8	195.1
52.5°	297.2	281.5	257.9	227.8	213.4	197.7	178.0	165.0	157.1	153.2	157.1
55°	263.1	247.4	223.9	193.8	178.0	163.7	142.7	132.2	123.0	119.2	123.0
57.5°	226.5	212.1	191.2	161.0	146.6	133.6	113.9	103.5	94.3	91.6	94.3
60°	195.1	183.3	162.3	133.6	121.7	107.3	90.3	79.9	72.0	70.7	72.0
62.5°	174.2	161.0	141.4	113.9	102.1	90.3	74.6	64.2	57.6	56.3	57.6
65°	153.2	138.8	120.5	96.9	85.1	75.9	60.2	51.1	44.5	43.2	44.5
67.5°	129.6	116.5	100.8	79.9	70.7	61.5	48.5	39.3	34.1	32.8	34.1
70°	107.3	95.6	79.9	64.2	55.0	48.5	36.6	30.1	24.9	23.6	24.9
72.5°	85.1	74.6	61.5	48.5	43.2	36.6	28.8	22.2	18.4	17.0	18.4
75°	65.5	57.6	47.1	35.3	31.4	27.5	19.6	15.7	13.1	11.8	13.1
77.5°	45.8	40.6	32.8	26.2	22.2	19.6	14.4	10.5	9.2	7.9	9.2
80°	31.4	27.5	22.2	17.0	14.4	11.8	9.2	6.5	5.2	5.2	5.2
82.5°	20.9	17.0	13.1	10.5	9.2	7.9	5.2	3.9	3.9	2.7	2.7
85°	11.8	10.5	7.9	6.5	5.2	3.9	2.7	2.7	1.3	1.3	1.3
87.5°	5.2	3.9	2.7	2.7	1.3	1.3	1.3	1.3	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°	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0
2.5°	855.0	851.0	856.3	851.0	848.4	851.0	848.4	856.3	849.7	844.5	849.7
5°	853.7	848.4	853.7	849.7	845.8	847.1	844.5	852.3	844.5	840.6	843.2
7.5°	851.0	847.1	849.7	845.8	841.8	843.2	840.6	847.1	839.3	835.3	838.0
10°	847.1	843.2	844.5	841.8	838.0	838.0	835.3	840.6	831.4	826.1	828.8
12.5°	841.8	836.6	839.3	835.3	830.1	830.1	827.4	831.4	822.2	817.0	818.3
15°	835.3	830.1	830.1	826.1	820.9	820.9	815.7	819.6	809.2	803.9	803.9
17.5°	827.4	820.9	820.9	817.0	810.4	809.2	805.2	809.2	797.4	792.1	792.1
20°	815.7	810.4	809.2	806.5	800.0	798.7	793.5	794.7	785.6	781.6	780.3
22.5°	800.0	794.7	796.0	792.1	786.8	785.6	780.3	784.3	775.1	771.1	772.5
25°	772.5	769.9	772.5	771.1	767.3	767.3	764.6	767.3	759.4	756.7	758.1
27.5°	741.0	739.7	741.0	741.0	738.5	738.5	738.5	742.4	734.5	733.2	733.2
30°	695.2	695.2	696.5	697.9	697.9	700.4	699.2	704.4	699.2	696.5	699.2
32.5°	635.0	640.2	644.2	644.2	644.2	646.8	649.4	653.3	648.1	649.4	649.4
35°	566.9	570.8	573.5	580.0	576.1	585.2	587.9	593.1	591.8	594.4	593.1
37.5°	491.0	496.2	501.5	510.7	509.3	519.8	525.0	535.5	532.9	538.1	540.7
40°	420.3	428.1	436.0	442.5	447.8	458.2	468.7	481.8	485.8	489.6	491.0
42.5°	352.2	360.1	373.1	382.3	390.2	407.2	421.6	437.3	441.3	449.1	451.7
45°	297.2	303.7	319.5	331.3	337.8	362.7	379.7	399.3	405.9	415.1	418.9
47.5°	246.2	257.9	273.6	288.0	297.2	323.4	345.7	366.6	375.8	386.3	391.5
50°	201.6	214.7	235.7	248.7	261.9	290.7	315.6	337.8	347.0	358.7	364.0
52.5°	165.0	179.4	199.0	213.4	227.8	257.9	284.1	305.1	316.8	324.7	332.6
55°	129.6	145.3	165.0	180.7	192.4	225.2	247.4	268.4	276.3	282.8	286.7
57.5°	100.8	112.6	132.2	145.3	159.8	188.5	210.8	226.5	233.0	240.9	243.5
60°	78.6	90.3	108.7	121.7	134.9	162.3	184.6	200.3	206.9	213.4	217.3
62.5°	62.8	74.6	91.6	103.5	115.2	140.1	159.8	175.5	183.3	189.9	193.8
65°	49.8	60.2	74.6	86.4	95.6	117.8	137.4	151.9	159.8	166.3	170.2
67.5°	39.3	48.5	61.5	69.4	78.6	96.9	113.9	127.0	133.6	141.4	145.3
70°	30.1	36.6	48.5	55.0	61.5	77.2	90.3	103.5	110.0	115.2	117.8
72.5°	22.2	27.5	36.6	41.9	45.8	58.9	69.4	78.6	83.8	89.1	91.6
75°	15.7	19.6	26.2	30.1	32.8	41.9	51.1	57.6	61.5	65.5	69.4
77.5°	10.5	13.1	17.0	19.6	22.2	28.8	34.1	39.3	43.2	47.1	48.5
80°	6.5	9.2	11.8	13.1	14.4	18.4	23.6	26.2	28.8	31.4	32.8
82.5°	3.9	5.2	6.5	7.9	9.2	11.8	14.4	17.0	18.4	20.9	22.2
85°	1.3	2.7	2.7	3.9	3.9	6.5	7.9	9.2	10.5	11.8	13.1
87.5°	0.0	0.0	1.3	1.3	1.3	1.3	2.7	2.7	2.7	2.7	2.7
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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	851.0	851.0	851.0	851.0	851.0	851.0	851.0	851.0
2.5°	855.0	851.0	848.4	847.1	856.3	844.5	849.7	851.0
5°	849.7	845.8	843.2	841.8	849.7	839.3	843.2	845.8
7.5°	841.8	839.3	835.3	834.0	841.8	830.1	835.3	836.6
10°	832.7	828.8	826.1	824.9	831.4	819.6	824.9	824.9
12.5°	820.9	818.3	813.1	813.1	818.3	807.9	811.7	811.7
15°	805.2	802.6	797.4	797.4	802.6	792.1	796.0	796.0
17.5°	792.1	789.5	785.6	784.3	789.5	779.0	783.0	781.6
20°	781.6	779.0	773.8	773.8	777.7	767.3	771.1	771.1
22.5°	772.5	771.1	765.9	765.9	771.1	760.7	763.3	760.7
25°	758.1	756.7	751.5	752.9	755.4	745.0	748.9	746.3
27.5°	734.5	734.5	729.3	728.0	731.9	722.8	725.3	724.0
30°	697.9	699.2	692.6	692.6	693.9	686.0	690.0	688.7
32.5°	648.1	649.4	644.2	642.9	646.8	640.2	642.9	642.9
35°	593.1	594.4	590.5	590.5	594.4	590.5	590.5	589.2
37.5°	538.1	540.7	538.1	539.4	542.1	538.1	540.7	539.4
40°	493.6	496.2	492.3	494.9	497.5	493.6	497.5	494.9
42.5°	453.0	457.0	454.3	457.0	459.5	457.0	459.5	455.7
45°	422.9	425.6	424.2	425.6	428.1	426.8	428.1	426.8
47.5°	394.1	399.3	396.7	399.3	403.2	400.7	403.2	399.3
50°	367.9	371.8	370.6	373.1	374.4	373.1	375.8	371.8
52.5°	333.8	337.8	336.5	336.5	339.1	336.5	339.1	336.5
55°	289.4	290.7	290.7	292.0	290.7	289.4	290.7	288.0
57.5°	246.2	248.7	244.9	248.7	247.4	246.2	246.2	243.5
60°	218.6	222.6	220.0	222.6	221.3	221.3	221.3	220.0
62.5°	196.4	199.0	196.4	197.7	197.7	197.7	196.4	195.1
65°	171.5	175.5	172.8	174.2	172.8	171.5	172.8	171.5
67.5°	146.6	147.9	147.9	146.6	146.6	146.6	146.6	144.1
70°	119.2	120.5	119.2	121.7	120.5	119.2	120.5	117.8
72.5°	92.9	94.3	92.9	94.3	92.9	92.9	92.9	92.9
75°	69.4	70.7	70.7	70.7	70.7	70.7	68.1	70.7
77.5°	49.8	49.8	49.8	51.1	49.8	49.8	49.8	49.8
80°	34.1	34.1	34.1	35.3	34.1	35.3	34.1	35.3
82.5°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
85°	11.8	13.1	13.1	11.8	11.8	11.8	11.8	11.8
87.5°	2.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)