

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: P843425

Luminaire Tested: **LD4C20DE010B2750 EU4C20B27 4LBDWWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843425
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-5)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20DE010B2750 EU4C20B27 4LBLDWWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

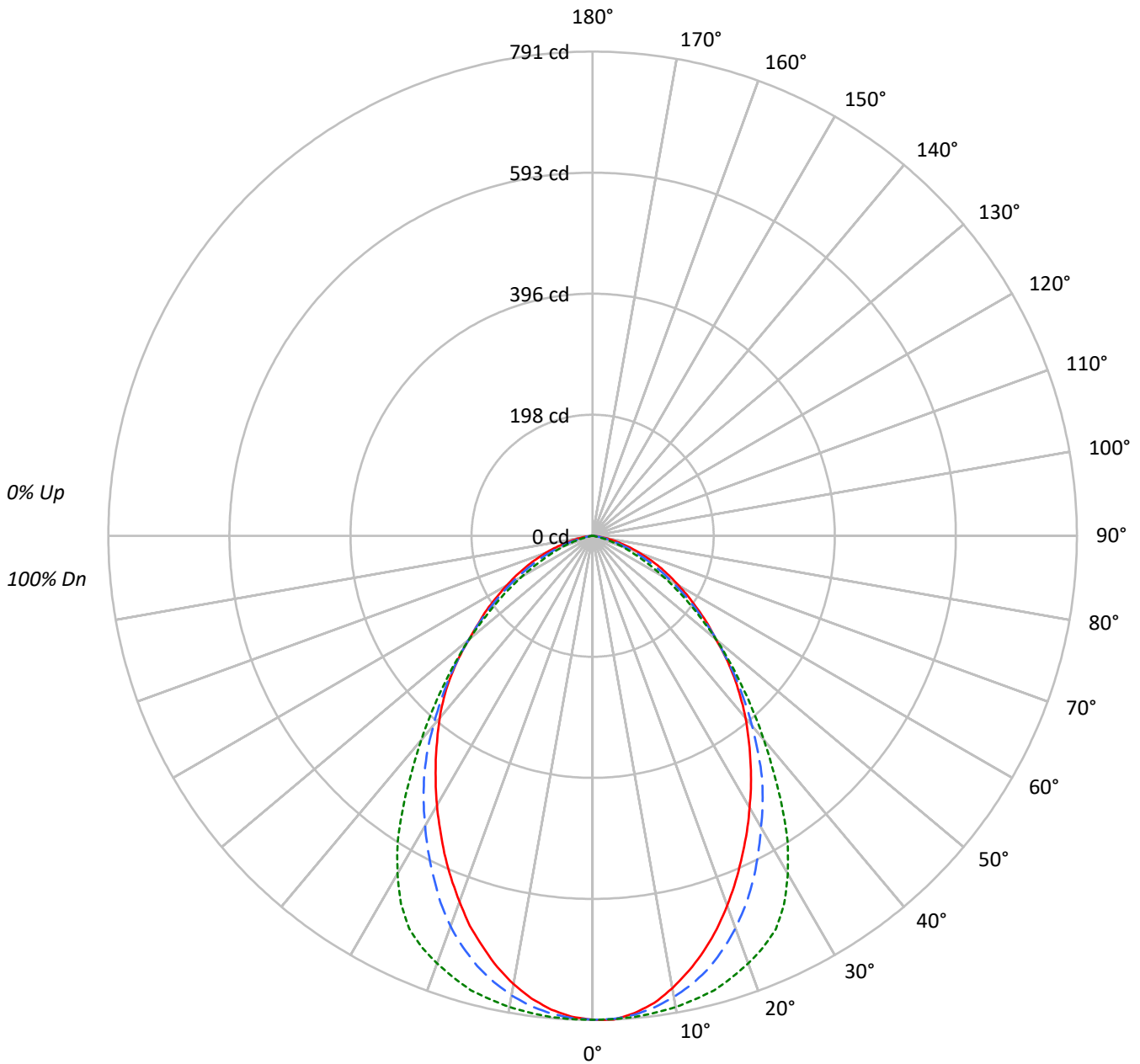
Lumens per Lamp: N/A
Luminaire Lumens: 1452.1 lumens
Efficiency: N/A
Efficacy: 66.6 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
Input Voltage (V):
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





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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	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	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	66	62	70	65	61	59																			
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	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°	97140	97140	97140
5°	96562	97289	95822
10°	93624	97529	92801
15°	89324	97743	88332
20°	84038	97191	83110
25°	78282	96040	77632
30°	72731	90435	72149
35°	67444	80882	66964
40°	62353	69763	62321
45°	56813	59541	57282
50°	50190	50362	50476
55°	44958	41167	45151
60°	39731	32704	39805
65°	35000	24942	34651
70°	28987	17852	28987
75°	22594	10253	21740
80°	14645	2547	14008
85°	5356	846	4229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.2	5.1
10°-20°	205.4	14.1
20°-30°	287.1	19.8
30°-40°	302.8	20.9
40°-50°	257.6	17.7
50°-60°	181.8	12.5
60°-70°	103.0	7.1
70°-80°	36.8	2.5
80°-90°	3.5	0.2
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°	566.6	39.0
0°-40°	869.4	59.9
0°-60°	1308.8	90.1
0°-90°	1452.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1452.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	791	791	791	791	791	
5°	783	786	789	783	777	74
15°	702	732	768	728	694	197
25°	578	621	708	615	573	266
35°	450	482	539	480	446	281
45°	327	332	343	333	330	251
55°	210	203	192	203	211	189
65°	120	103	86	104	119	119
75°	48	33	22	32	46	51
85°	4	2	1	2	3	7
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°	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7
2.5°	791.2	789.8	789.8	789.8	789.8	789.8	789.8	789.8	789.8	790.1	790.1
5°	783.0	782.4	782.1	782.1	782.1	782.1	782.4	783.6	784.1	785.1	785.6
7.5°	770.0	768.8	769.4	769.4	770.0	770.6	771.4	772.6	774.4	775.6	777.0
10°	750.5	749.2	750.7	751.3	753.1	754.0	755.5	757.3	760.9	762.6	765.0
12.5°	727.7	727.1	727.7	730.1	731.9	733.0	734.8	738.7	742.1	746.1	750.2
15°	702.3	700.8	701.6	704.6	707.6	709.7	711.2	716.1	720.9	726.8	731.9
17.5°	673.9	671.8	674.1	676.6	680.4	682.2	684.2	689.9	696.3	702.9	708.5
20°	642.8	642.2	643.7	647.0	650.9	653.2	655.0	661.1	666.7	675.6	682.2
22.5°	610.6	611.2	612.4	616.0	618.6	621.9	624.5	630.1	636.6	644.9	653.2
25°	577.5	578.4	580.4	582.8	587.2	589.0	592.3	598.2	603.8	611.5	620.6
27.5°	545.5	545.8	548.2	549.4	553.6	557.4	558.9	565.1	571.5	577.5	585.5
30°	512.7	513.6	515.1	518.3	522.5	524.0	525.7	531.4	536.4	543.7	550.0
32.5°	481.4	480.8	482.6	484.3	489.0	491.7	492.6	499.1	503.5	510.9	516.9
35°	449.7	448.2	451.0	452.7	456.8	459.2	460.4	465.5	469.6	475.7	482.3
37.5°	418.1	419.2	420.5	422.0	424.0	424.6	428.1	429.3	434.7	439.4	442.9
40°	388.8	388.3	387.6	389.1	391.7	393.0	393.2	396.5	397.7	402.4	405.1
42.5°	357.5	357.8	357.5	357.8	359.3	359.3	360.1	362.2	363.1	364.6	367.8
45°	327.0	327.0	326.2	326.5	326.7	326.5	326.7	327.7	329.3	329.3	331.8
47.5°	295.4	294.8	296.0	295.1	294.6	294.2	295.1	294.2	296.0	296.0	296.6
50°	262.6	262.6	264.1	263.8	264.3	263.1	263.5	263.5	263.8	263.5	264.6
52.5°	237.1	236.6	236.0	234.5	235.1	233.8	233.8	234.2	233.3	233.0	231.5
55°	209.9	210.6	209.6	209.1	209.1	207.8	207.6	205.8	204.7	203.7	202.9
57.5°	185.4	186.0	185.7	184.2	182.4	182.8	182.1	180.3	177.7	175.9	174.5
60°	161.7	162.3	161.7	160.2	159.7	158.5	158.2	155.8	153.8	151.3	149.7
62.5°	140.5	140.5	140.1	138.1	136.6	136.9	135.4	133.7	131.0	127.8	125.1
65°	120.4	120.0	118.6	117.7	116.6	115.1	114.1	111.5	109.4	106.7	103.2
67.5°	100.3	99.3	98.8	97.8	95.2	94.9	93.7	91.4	88.4	86.3	83.3
70°	80.7	80.4	79.2	79.2	77.2	76.3	74.6	72.4	69.8	66.8	64.4
72.5°	63.9	63.2	62.1	60.9	59.1	58.6	57.1	55.0	52.7	49.7	46.7
75°	47.6	47.1	46.7	45.3	43.8	42.3	41.7	39.7	37.2	35.2	32.6
77.5°	33.4	32.8	31.9	31.1	30.1	29.3	28.3	26.7	24.5	22.7	20.4
80°	20.7	20.1	19.6	19.2	18.3	18.1	16.8	16.0	14.2	13.0	11.5
82.5°	10.7	10.7	10.0	9.7	9.2	8.9	8.6	7.7	6.8	5.9	5.1
85°	3.8	3.8	3.6	3.3	3.3	3.0	3.0	2.6	2.1	2.1	1.5
87.5°	0.3	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7
2.5°	790.4	790.1	790.4	790.4	790.7	790.7	790.7	790.4	790.7	790.4	790.4
5°	785.6	786.6	787.1	787.7	788.0	788.4	788.4	788.6	788.9	788.9	788.6
7.5°	778.2	780.0	781.8	783.0	783.6	784.1	785.1	785.6	786.2	785.9	785.6
10°	768.5	771.4	773.9	776.2	777.4	778.2	779.7	781.0	781.5	781.8	781.0
12.5°	754.6	758.7	762.6	766.5	768.2	769.4	772.4	774.4	775.6	775.6	774.7
15°	737.2	743.1	748.7	753.7	756.6	758.4	762.9	765.8	767.6	768.5	767.0
17.5°	716.1	723.0	729.8	736.2	739.2	741.9	748.1	752.2	756.1	756.6	754.9
20°	689.3	697.8	705.5	713.5	716.8	720.9	728.0	734.8	740.7	743.4	738.3
22.5°	659.1	668.5	675.6	685.5	689.9	694.2	703.4	712.0	722.4	728.0	719.1
25°	627.7	635.7	644.3	653.7	660.0	664.7	675.4	686.3	700.2	708.5	696.0
27.5°	594.1	601.2	611.5	621.9	626.5	632.5	645.2	657.0	670.3	677.7	668.5
30°	559.2	568.1	577.8	587.2	594.1	599.7	610.0	620.1	631.3	637.5	630.7
32.5°	524.6	533.2	541.4	551.8	555.6	560.7	569.7	578.4	587.0	592.6	584.6
35°	488.2	495.9	503.5	510.6	512.4	518.3	525.7	530.7	535.0	539.3	534.0
37.5°	448.5	454.5	458.3	466.0	469.0	469.8	475.7	479.3	483.8	484.6	484.3
40°	408.4	413.6	416.9	421.7	424.0	424.0	428.1	431.4	434.7	435.0	434.7
42.5°	370.8	373.5	376.1	379.1	378.5	382.0	383.8	385.3	387.6	387.6	388.3
45°	332.9	335.1	337.4	338.0	340.3	340.3	341.8	342.5	343.6	342.7	341.5
47.5°	297.7	298.7	299.0	301.6	302.2	300.2	301.8	302.2	301.8	301.8	301.3
50°	264.3	264.9	264.6	263.8	264.1	264.9	264.1	262.8	263.5	263.5	264.1
52.5°	231.8	230.7	230.0	230.0	228.9	228.9	227.4	226.8	226.5	225.3	226.8
55°	202.0	200.2	197.6	196.9	196.1	195.8	194.0	192.5	191.9	192.2	191.9
57.5°	173.2	170.6	168.8	168.3	167.3	165.6	163.5	162.0	161.7	161.2	161.2
60°	147.2	144.3	141.6	139.0	139.3	138.1	136.0	135.2	134.2	133.1	133.9
62.5°	123.6	120.4	117.4	114.8	113.0	112.1	110.6	109.1	108.2	107.3	108.5
65°	100.3	97.6	94.3	91.7	90.7	89.9	88.4	86.1	85.8	85.8	86.3
67.5°	79.2	76.3	73.3	71.6	70.3	69.2	68.6	67.4	66.5	65.9	66.2
70°	60.9	58.0	55.6	53.8	52.9	52.7	50.6	50.2	49.9	49.7	49.4
72.5°	44.3	42.0	39.9	38.7	37.5	36.7	36.1	35.2	34.9	34.9	34.9
75°	30.5	28.7	26.3	24.9	24.2	23.4	22.4	21.9	21.3	21.6	21.6
77.5°	18.3	16.6	15.1	13.9	13.6	12.7	11.8	11.2	10.4	10.4	10.7
80°	10.0	8.6	7.4	6.6	5.9	5.6	4.8	4.4	3.8	3.6	3.6
82.5°	4.4	3.6	3.0	2.6	2.3	2.1	1.8	1.5	1.5	1.2	1.5
85°	1.5	1.2	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.3	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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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7
2.5°	790.1	790.1	789.8	789.8	789.8	789.2	789.2	788.9	788.6	788.4	787.7
5°	788.0	787.7	787.1	786.9	786.6	785.6	784.8	784.1	783.3	782.1	781.5
7.5°	785.1	784.1	783.0	782.4	781.5	779.5	778.0	776.5	775.0	772.9	770.6
10°	780.0	778.2	776.5	775.4	773.9	771.1	768.2	765.8	762.6	759.6	756.4
12.5°	772.9	770.9	767.3	765.5	763.7	759.9	756.1	751.0	746.6	742.5	738.7
15°	764.0	760.2	756.1	753.7	751.0	744.9	739.0	733.6	727.7	722.7	716.4
17.5°	751.0	745.4	739.5	736.9	733.4	726.2	719.1	711.7	704.9	698.7	691.1
20°	731.6	725.3	717.6	713.5	710.5	701.1	694.2	686.0	678.9	671.2	662.6
22.5°	708.7	700.2	691.6	685.7	682.5	673.0	663.9	656.5	648.8	639.9	633.6
25°	683.0	672.4	662.1	656.2	651.1	641.0	632.1	624.5	615.0	607.4	601.2
27.5°	654.0	642.0	629.8	623.9	619.1	608.2	598.7	590.8	581.6	574.8	568.3
30°	619.5	608.6	597.0	592.3	586.7	575.5	564.5	557.4	547.3	540.2	533.2
32.5°	576.3	569.2	560.0	553.6	550.6	540.2	531.0	522.5	513.9	508.3	501.2
35°	529.0	522.8	515.1	511.6	507.7	501.2	493.8	486.4	479.6	474.2	467.8
37.5°	481.1	474.9	470.1	466.3	464.0	458.1	453.6	448.0	443.3	438.2	434.7
40°	431.4	429.6	424.6	422.8	422.2	415.8	411.9	407.5	404.5	401.6	399.5
42.5°	387.3	384.4	380.5	380.9	379.1	375.6	372.8	370.0	367.8	366.4	364.2
45°	343.8	341.5	339.7	341.2	338.2	337.1	335.1	334.7	333.3	330.6	329.7
47.5°	302.5	302.2	302.5	301.6	301.0	300.5	300.7	299.2	297.7	296.9	295.7
50°	264.6	264.9	265.6	266.4	264.3	265.3	264.9	264.6	264.6	263.8	264.3
52.5°	228.0	228.2	228.9	229.7	230.0	230.0	231.0	231.5	232.7	234.2	234.2
55°	193.3	195.5	196.6	198.1	197.2	199.0	199.9	202.5	203.4	203.4	204.7
57.5°	162.7	164.7	165.6	167.3	168.0	169.4	171.8	173.2	175.4	177.2	178.8
60°	134.5	135.4	137.8	140.5	139.8	143.4	145.2	147.5	150.2	151.3	153.8
62.5°	109.4	110.6	112.3	113.3	115.3	117.1	121.2	123.6	126.0	128.9	131.3
65°	86.9	88.1	89.9	91.7	92.5	95.2	97.3	101.4	103.5	106.7	109.4
67.5°	66.5	68.3	69.8	71.0	71.6	74.2	77.4	79.2	83.1	86.3	88.4
70°	49.7	51.2	52.9	52.7	53.8	55.8	58.3	60.9	63.9	66.8	69.2
72.5°	34.6	36.1	37.2	37.5	38.7	40.2	42.0	44.1	46.4	49.4	52.7
75°	21.9	22.2	23.4	23.9	24.5	26.3	27.8	29.8	31.9	34.3	36.4
77.5°	10.9	11.8	12.4	13.0	13.3	14.8	16.3	18.1	19.8	22.2	24.2
80°	4.1	4.4	5.3	5.6	6.2	7.1	8.2	9.2	10.7	12.4	13.6
82.5°	1.5	1.8	2.1	2.1	2.3	3.0	3.3	4.1	5.1	5.6	6.2
85°	0.6	0.6	0.6	0.6	0.6	0.8	0.8	1.2	1.5	1.8	1.8
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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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	790.7	790.7	790.7	790.7	790.7	790.7	790.7	790.7
2.5°	787.4	787.4	787.1	786.9	786.9	786.9	786.6	786.6
5°	780.3	779.5	779.2	778.5	778.2	778.0	777.0	777.0
7.5°	768.8	767.6	766.7	765.8	764.7	763.7	763.7	762.6
10°	753.5	751.0	749.9	748.7	747.2	745.4	744.9	743.9
12.5°	734.8	730.1	728.9	726.8	724.5	723.2	721.2	721.2
15°	711.7	706.7	704.1	702.9	699.9	697.8	697.0	694.5
17.5°	684.8	681.0	676.9	675.1	671.8	669.2	668.0	667.7
20°	657.6	651.4	648.8	646.1	642.2	639.9	638.1	635.7
22.5°	626.2	620.6	616.8	615.0	611.7	607.6	604.6	604.6
25°	593.1	588.2	586.0	582.2	578.4	576.9	573.3	572.7
27.5°	561.5	556.5	552.4	550.3	545.8	543.7	540.8	539.6
30°	528.7	522.8	519.8	519.5	514.2	512.1	509.8	508.6
32.5°	495.9	490.8	487.9	486.1	483.8	480.2	478.2	477.0
35°	463.3	460.1	457.4	455.3	451.5	449.7	448.0	446.5
37.5°	429.3	426.4	425.2	423.5	421.7	418.4	417.8	416.6
40°	396.5	392.7	392.7	391.5	389.7	389.4	388.6	388.6
42.5°	362.2	360.4	360.1	360.4	359.3	358.6	357.8	359.8
45°	328.2	329.1	327.7	328.0	327.3	328.5	328.5	329.7
47.5°	296.9	295.7	296.2	296.9	297.7	297.7	297.5	297.2
50°	263.5	264.6	265.8	264.3	264.9	265.3	263.8	264.1
52.5°	234.8	235.1	236.0	235.1	236.0	235.6	236.3	235.1
55°	207.0	207.0	208.1	208.5	208.8	209.6	209.9	210.8
57.5°	180.1	181.6	183.1	182.8	183.9	185.1	184.2	185.1
60°	156.7	157.9	159.4	160.0	160.9	161.4	161.4	162.0
62.5°	133.1	135.4	136.6	137.8	137.8	139.0	140.1	140.5
65°	111.8	114.4	115.3	116.2	116.8	118.0	119.4	119.2
67.5°	91.7	93.4	94.7	95.2	97.0	97.6	98.8	99.9
70°	71.8	74.2	75.1	76.3	77.7	78.9	80.2	80.7
72.5°	55.0	56.8	57.3	58.6	60.1	61.2	61.8	62.7
75°	38.4	41.4	41.7	42.6	43.8	45.3	46.1	45.8
77.5°	25.4	27.5	27.8	29.0	30.1	31.3	31.6	31.9
80°	15.1	16.3	16.6	17.1	18.1	18.6	19.2	19.8
82.5°	7.1	7.7	8.2	8.2	8.9	9.4	9.4	9.7
85°	2.3	2.3	2.6	2.6	3.0	3.0	3.3	3.0
87.5°	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3
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)