

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: P843439

Luminaire Tested: **LD4C20DE010B2750 EU4C20B30 4LBDWWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843439
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 EU4C20B30 4LBLDWWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

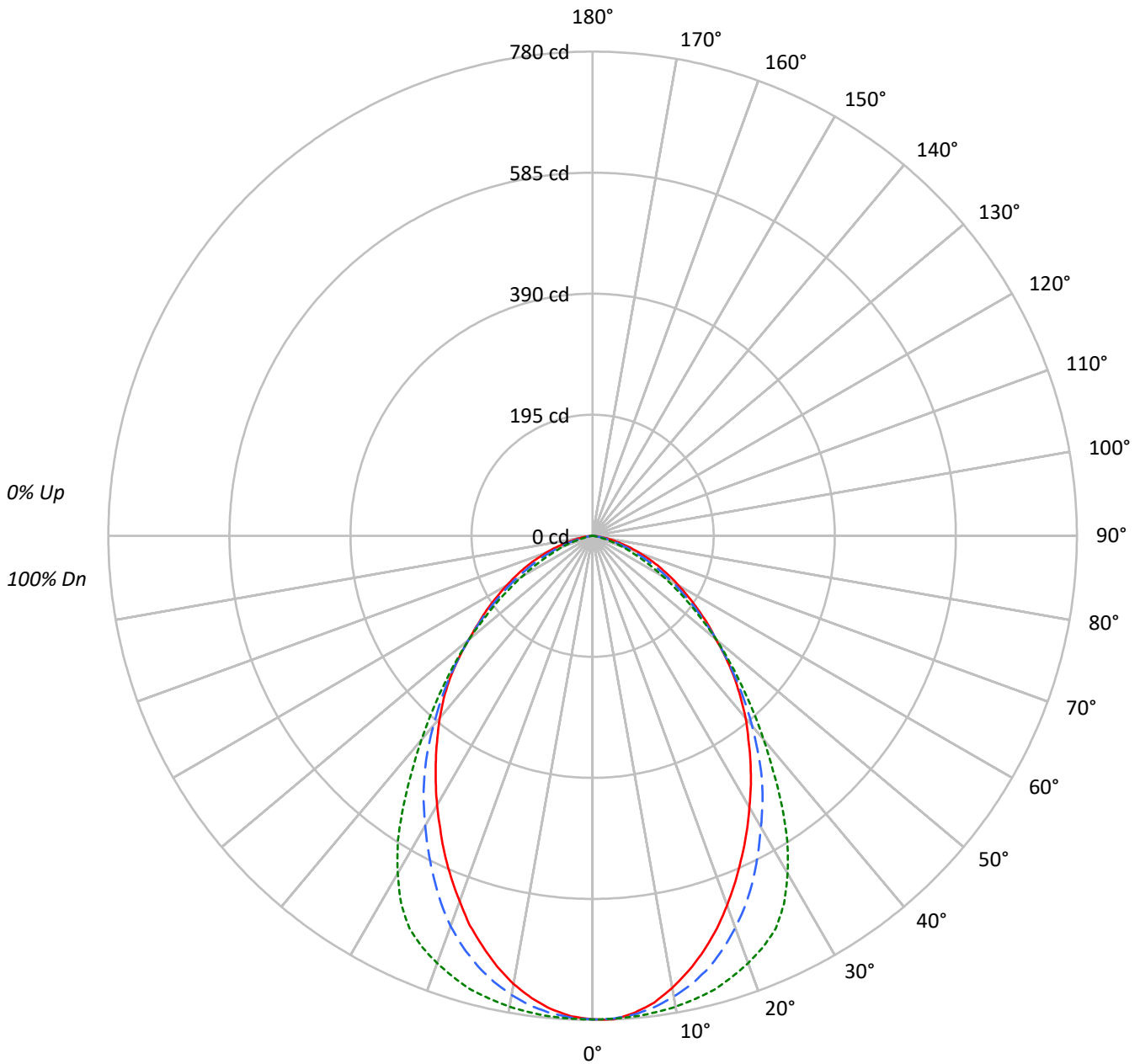
Lumens per Lamp: N/A
Luminaire Lumens: 1431.0 lumens
Efficiency: N/A
Efficacy: 65.6 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.19 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	95727	95727	95727
5°	95144	95871	94428
10°	92252	96106	91466
15°	88014	96319	87060
20°	82809	95766	81894
25°	77144	94630	76520
30°	71667	89116	71100
35°	66455	79712	65990
40°	61455	68752	61407
45°	55997	58672	56448
50°	49444	49616	49731
55°	44316	40567	44487
60°	39166	32212	39239
65°	34477	24564	34128
70°	28556	17601	28556
75°	22309	10110	21455
80°	14433	2476	13867
85°	5356	846	4229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.1	5.1
10°-20°	202.4	14.1
20°-30°	282.9	19.8
30°-40°	298.4	20.9
40°-50°	253.8	17.7
50°-60°	179.1	12.5
60°-70°	101.5	7.1
70°-80°	36.2	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°	558.4	39.0
0°-40°	856.8	59.9
0°-60°	1289.7	90.1
0°-90°	1431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1431.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	779	779	779	779	779	
5°	772	774	777	772	766	73
15°	692	721	757	717	684	194
25°	569	612	698	606	564	262
35°	443	475	532	473	440	277
45°	322	327	338	328	325	248
55°	207	200	189	200	208	186
65°	119	102	84	102	117	117
75°	47	32	21	32	45	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°	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2
2.5°	779.8	778.3	778.3	778.3	778.3	778.3	778.3	778.3	778.3	778.5	778.5
5°	771.5	771.0	770.7	770.7	770.7	770.7	771.0	772.2	772.7	773.7	774.2
7.5°	758.7	757.6	758.2	758.2	758.7	759.4	760.2	761.4	763.1	764.2	765.7
10°	739.5	738.3	739.8	740.4	742.1	743.0	744.5	746.3	749.8	751.4	753.8
12.5°	717.1	716.5	717.1	719.4	721.2	722.4	724.1	727.9	731.4	735.2	739.3
15°	692.0	690.5	691.5	694.3	697.3	699.3	700.8	705.8	710.4	716.2	721.2
17.5°	664.1	662.0	664.4	666.7	670.4	672.2	674.2	679.8	686.2	692.6	698.1
20°	633.4	632.9	634.4	637.5	641.3	643.7	645.4	651.5	657.1	665.8	672.2
22.5°	601.7	602.3	603.5	607.0	609.6	612.8	615.4	620.9	627.4	635.5	643.7
25°	569.1	570.0	572.0	574.3	578.7	580.4	583.6	589.4	595.0	602.5	611.6
27.5°	537.6	537.9	540.2	541.4	545.4	549.2	550.7	556.8	563.3	569.1	576.9
30°	505.2	506.2	507.6	510.8	514.9	516.3	518.0	523.6	528.6	535.9	541.9
32.5°	474.3	473.8	475.5	477.3	482.0	484.6	485.5	491.9	496.2	503.5	509.4
35°	443.1	441.8	444.3	446.1	450.2	452.6	453.7	458.6	462.7	468.8	475.2
37.5°	412.1	413.2	414.4	415.8	417.9	418.4	421.9	423.1	428.3	433.0	436.5
40°	383.2	382.5	382.0	383.5	386.0	387.2	387.5	390.8	392.0	396.6	399.2
42.5°	352.3	352.6	352.3	352.6	354.0	354.0	354.9	357.0	357.8	359.3	362.5
45°	322.3	322.3	321.4	321.7	321.9	321.7	321.9	322.9	324.6	324.6	326.9
47.5°	291.1	290.5	291.7	290.8	290.2	289.9	290.8	289.9	291.7	291.7	292.2
50°	258.7	258.7	260.2	260.0	260.5	259.3	259.6	259.6	260.0	259.6	260.8
52.5°	233.7	233.1	232.6	231.1	231.6	230.5	230.5	230.8	229.9	229.6	228.1
55°	206.9	207.5	206.6	206.0	206.0	204.9	204.5	202.9	201.6	200.7	199.9
57.5°	182.7	183.3	183.0	181.5	179.8	180.1	179.5	177.8	175.1	173.3	171.9
60°	159.4	160.0	159.4	157.9	157.4	156.2	155.9	153.6	151.6	149.2	147.4
62.5°	138.4	138.4	138.1	136.1	134.6	135.0	133.5	131.7	129.0	125.9	123.2
65°	118.6	118.3	116.9	116.0	114.8	113.4	112.4	109.9	107.8	105.2	101.7
67.5°	98.8	97.9	97.3	96.5	93.8	93.5	92.3	90.0	87.1	85.0	82.2
70°	79.5	79.2	78.1	78.1	76.0	75.2	73.4	71.4	68.7	65.9	63.6
72.5°	62.9	62.4	61.2	60.1	58.3	57.6	56.3	54.2	51.8	49.0	46.0
75°	47.0	46.3	46.0	44.6	43.2	41.7	41.0	39.0	36.7	34.7	32.0
77.5°	32.9	32.4	31.5	30.6	29.7	28.9	27.9	26.2	24.2	22.4	20.1
80°	20.4	19.8	19.2	18.9	18.1	17.8	16.6	15.8	14.0	12.8	11.3
82.5°	10.5	10.5	9.9	9.6	9.0	8.8	8.5	7.6	6.7	5.8	5.0
85°	3.8	3.8	3.5	3.2	3.2	3.0	3.0	2.6	2.0	2.0	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°	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2
2.5°	778.8	778.5	778.8	778.8	779.2	779.2	779.2	778.8	779.2	778.8	778.8
5°	774.2	775.0	775.7	776.2	776.5	776.8	776.8	777.1	777.4	777.4	777.1
7.5°	766.9	768.7	770.4	771.5	772.2	772.7	773.7	774.2	774.8	774.5	774.2
10°	757.3	760.2	762.6	764.9	766.0	766.9	768.4	769.5	770.2	770.4	769.5
12.5°	743.6	747.6	751.4	755.3	757.1	758.2	761.1	763.1	764.2	764.2	763.4
15°	726.4	732.2	737.8	742.8	745.6	747.4	751.8	754.7	756.4	757.3	755.9
17.5°	705.8	712.4	719.1	725.5	728.5	731.0	737.2	741.3	745.1	745.6	743.9
20°	679.2	687.7	695.3	703.1	706.3	710.4	717.4	724.1	729.9	732.5	727.5
22.5°	649.5	658.8	665.8	675.4	679.8	684.2	693.2	701.6	711.9	717.4	708.6
25°	618.6	626.4	634.9	644.2	650.3	655.0	665.6	676.3	690.0	698.1	685.9
27.5°	585.4	592.4	602.5	612.8	617.4	623.3	635.8	647.5	660.6	667.9	658.8
30°	551.0	559.7	569.3	578.7	585.4	590.9	601.2	611.0	622.1	628.2	621.6
32.5°	516.9	525.3	533.5	543.7	547.5	552.5	561.5	570.0	578.4	583.9	576.1
35°	481.1	488.6	496.2	503.2	505.0	510.8	518.0	523.0	527.1	531.5	526.3
37.5°	442.0	447.9	451.6	459.2	462.2	463.0	468.8	472.3	476.7	477.6	477.3
40°	402.4	407.6	410.9	415.5	417.9	417.9	421.9	425.2	428.3	428.7	428.3
42.5°	365.4	368.1	370.6	373.6	372.9	376.5	378.2	379.7	382.0	382.0	382.5
45°	328.1	330.1	332.5	333.0	335.4	335.4	336.9	337.4	338.5	337.7	336.5
47.5°	293.4	294.3	294.6	297.2	297.8	295.7	297.5	297.8	297.5	297.5	296.9
50°	260.5	261.1	260.8	260.0	260.2	261.1	260.2	259.0	259.6	259.6	260.2
52.5°	228.4	227.3	226.7	226.7	225.5	225.5	224.1	223.5	223.2	222.0	223.5
55°	199.0	197.2	194.6	194.1	193.2	192.9	191.1	189.7	189.1	189.4	189.1
57.5°	170.7	168.2	166.4	165.8	164.9	163.2	161.2	159.7	159.4	158.9	158.9
60°	145.1	142.1	139.6	137.0	137.3	136.1	134.0	133.2	132.3	131.1	132.0
62.5°	121.8	118.6	115.7	113.1	111.3	110.4	108.9	107.6	106.6	105.8	106.9
65°	98.8	96.1	93.0	90.3	89.5	88.6	87.1	84.8	84.5	84.5	85.0
67.5°	78.1	75.2	72.2	70.5	69.4	68.2	67.6	66.4	65.6	64.9	65.3
70°	60.1	57.1	54.8	53.0	52.1	51.8	49.8	49.5	49.3	49.0	48.7
72.5°	43.7	41.4	39.3	38.2	37.0	36.2	35.5	34.7	34.4	34.4	34.4
75°	30.0	28.2	25.9	24.4	23.9	23.1	22.1	21.6	20.9	21.3	21.3
77.5°	18.1	16.3	14.9	13.6	13.4	12.5	11.6	11.1	10.2	10.2	10.5
80°	9.9	8.5	7.3	6.5	5.8	5.5	4.7	4.3	3.8	3.5	3.5
82.5°	4.3	3.5	3.0	2.6	2.3	2.0	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°	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2
2.5°	778.5	778.5	778.3	778.3	778.3	777.7	777.7	777.4	777.1	776.8	776.2
5°	776.5	776.2	775.7	775.4	775.0	774.2	773.3	772.7	771.9	770.7	770.2
7.5°	773.7	772.7	771.5	771.0	770.2	768.1	766.7	765.2	763.7	761.7	759.4
10°	768.7	766.9	765.2	764.0	762.6	759.9	757.1	754.7	751.4	748.6	745.3
12.5°	761.7	759.6	756.1	754.4	752.6	748.8	745.1	740.1	735.8	731.7	727.9
15°	752.9	749.1	745.1	742.8	740.1	734.0	728.2	722.9	717.1	712.1	706.0
17.5°	740.1	734.5	728.7	726.2	722.7	715.6	708.6	701.3	694.7	688.5	681.0
20°	720.9	714.7	707.2	703.1	700.2	690.8	684.2	676.0	669.1	661.4	653.0
22.5°	698.5	690.0	681.5	675.7	672.5	663.1	654.1	646.8	639.3	630.6	624.4
25°	673.1	662.6	652.5	646.5	641.7	631.7	622.9	615.4	606.1	598.5	592.4
27.5°	644.5	632.6	620.6	614.8	610.1	599.4	590.1	582.2	573.1	566.5	560.0
30°	610.5	599.7	588.3	583.6	578.1	567.0	556.2	549.2	539.4	532.3	525.3
32.5°	567.9	560.9	551.9	545.4	542.6	532.3	523.3	514.9	506.4	500.9	493.9
35°	521.3	515.2	507.6	504.1	500.3	493.9	486.6	479.3	472.7	467.4	460.9
37.5°	474.0	468.0	463.3	459.5	457.2	451.4	447.0	441.5	436.8	431.8	428.3
40°	425.2	423.4	418.4	416.7	416.1	409.7	405.9	401.5	398.6	395.7	393.7
42.5°	381.7	378.8	375.0	375.4	373.6	370.1	367.4	364.6	362.5	361.1	359.0
45°	338.9	336.5	334.8	336.2	333.4	332.2	330.1	329.9	328.4	325.8	324.9
47.5°	298.0	297.8	298.0	297.2	296.7	296.0	296.3	294.9	293.4	292.5	291.4
50°	260.8	261.1	261.7	262.5	260.5	261.3	261.1	260.8	260.8	260.0	260.5
52.5°	224.6	225.0	225.5	226.4	226.7	226.7	227.6	228.1	229.3	230.8	230.8
55°	190.6	192.6	193.8	195.2	194.4	196.1	196.9	199.6	200.4	200.4	201.6
57.5°	160.2	162.3	163.2	164.9	165.5	167.0	169.3	170.7	172.8	174.5	176.3
60°	132.6	133.5	135.8	138.4	137.8	141.3	143.1	145.4	148.1	149.2	151.6
62.5°	107.8	108.9	110.7	111.6	113.6	115.4	119.5	121.8	124.2	127.0	129.3
65°	85.7	86.8	88.6	90.3	91.2	93.8	95.8	99.9	102.0	105.2	107.8
67.5°	65.6	67.3	68.7	69.9	70.5	73.2	76.4	78.1	81.9	85.0	87.1
70°	49.0	50.4	52.1	51.8	53.0	55.1	57.4	60.1	62.9	65.9	68.2
72.5°	34.1	35.5	36.7	37.0	38.2	39.7	41.4	43.5	45.8	48.7	51.8
75°	21.6	21.9	23.1	23.6	24.2	25.9	27.4	29.4	31.5	33.8	35.9
77.5°	10.8	11.6	12.3	12.8	13.1	14.6	16.1	17.8	19.6	21.9	23.9
80°	4.1	4.3	5.3	5.5	6.1	7.0	8.1	9.0	10.5	12.3	13.4
82.5°	1.5	1.8	2.0	2.0	2.3	3.0	3.2	4.1	5.0	5.5	6.1
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°	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2
2.5°	776.0	776.0	775.7	775.4	775.4	775.4	775.0	775.0
5°	769.0	768.1	767.8	767.2	766.9	766.7	765.7	765.7
7.5°	757.6	756.4	755.6	754.7	753.6	752.6	752.6	751.4
10°	742.5	740.1	739.0	737.8	736.3	734.5	734.0	733.2
12.5°	724.1	719.4	718.2	716.2	713.9	712.7	710.7	710.7
15°	701.3	696.5	693.8	692.6	689.7	687.7	686.8	684.5
17.5°	674.9	671.1	666.9	665.3	662.0	659.4	658.3	658.0
20°	648.0	641.9	639.3	636.7	632.9	630.6	628.8	626.4
22.5°	617.1	611.6	607.8	606.1	602.9	598.8	595.9	595.9
25°	584.6	579.6	577.6	573.8	570.0	568.5	565.0	564.5
27.5°	553.4	548.4	544.3	542.2	537.9	535.9	532.9	531.8
30°	521.0	515.2	512.2	512.0	506.7	504.7	502.4	501.2
32.5°	488.6	483.7	480.8	479.0	476.7	473.2	471.2	470.0
35°	456.6	453.4	450.8	448.8	444.9	443.1	441.5	440.0
37.5°	423.1	420.2	419.0	417.2	415.5	412.3	411.7	410.6
40°	390.8	387.0	387.0	385.8	384.0	383.7	382.9	382.9
42.5°	357.0	355.2	354.9	355.2	354.0	353.5	352.6	354.6
45°	323.4	324.3	322.9	323.1	322.6	323.7	323.7	324.9
47.5°	292.5	291.4	292.0	292.5	293.4	293.4	293.2	292.9
50°	259.6	260.8	262.0	260.5	261.1	261.3	260.0	260.2
52.5°	231.4	231.6	232.6	231.6	232.6	232.3	232.8	231.6
55°	204.0	204.0	205.2	205.4	205.7	206.6	206.9	207.7
57.5°	177.5	179.0	180.3	180.1	181.3	182.4	181.5	182.4
60°	154.4	155.6	157.1	157.6	158.5	159.1	159.1	159.7
62.5°	131.1	133.5	134.6	135.8	135.8	137.0	138.1	138.4
65°	110.1	112.7	113.6	114.5	115.1	116.2	117.7	117.4
67.5°	90.3	92.1	93.3	93.8	95.6	96.1	97.3	98.5
70°	70.8	73.2	74.0	75.2	76.7	77.8	79.0	79.5
72.5°	54.2	55.9	56.5	57.6	59.1	60.3	60.9	61.8
75°	37.9	40.8	41.0	42.0	43.2	44.6	45.5	45.2
77.5°	25.1	27.1	27.4	28.6	29.7	30.9	31.2	31.5
80°	14.9	16.1	16.3	16.9	17.8	18.4	18.9	19.6
82.5°	7.0	7.6	8.1	8.1	8.8	9.3	9.3	9.6
85°	2.3	2.3	2.6	2.6	3.0	3.0	3.2	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)