

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: P843427

Luminaire Tested: **LD4C20DE010B2750 EU4C20B27 4LBLWWLI**

Issue Date: 5/7/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P843427  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2107-320-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C20DE010B2750 EU4C20B27 4LBLWWLI  
Description: 4in Downlight with BioUp LEDs  
Light Source: -  
Ballast/Driver:

**Summary**

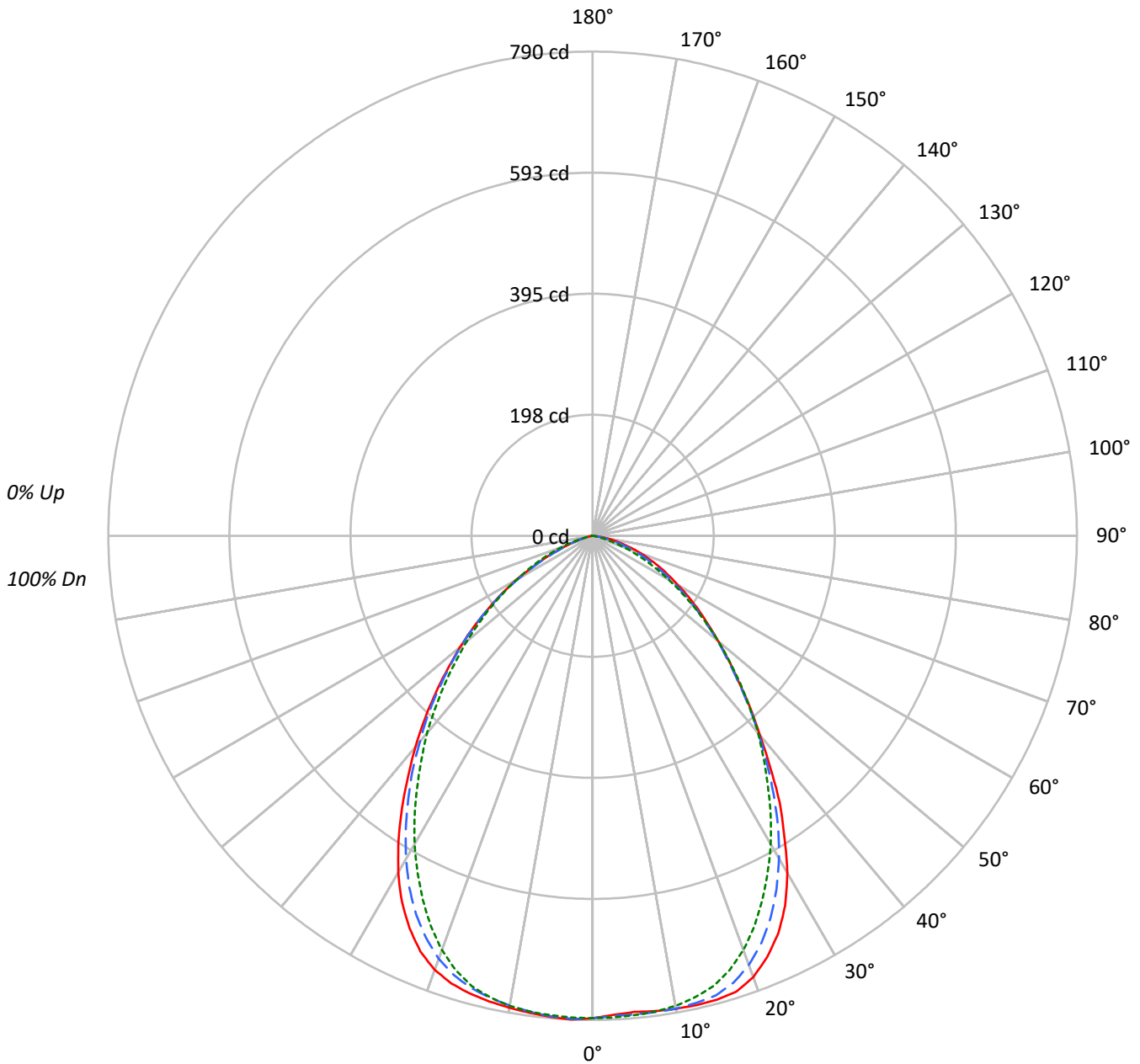
Lumens per Lamp: N/A  
Luminaire Lumens: 1509.2 lumens  
Efficiency: N/A  
Efficacy: 69.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78																			
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68																			
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60																			
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54																			
6	76	65	57	51	75	64	56	51	62	56	51	61	55	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	50	45	41	39																			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33																			

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

	0°	90°	180°
0°	96710	96710	96710
5°	96167	96833	97191
10°	97766	97167	97541
15°	99677	96751	98354
20°	100184	94027	98524
25°	97084	88801	95769
30°	90123	82406	89953
35°	79802	74748	81302
40°	68031	67325	72104
45°	58446	59107	62807
50°	51012	51145	53859
55°	45087	43180	44658
60°	39534	35234	35087
65°	35000	27325	24331
70°	29814	18822	14440
75°	24161	10110	6598
80°	16555	2547	1627
85°	5075	846	846



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	5.0
10°-20°	216.6	14.4
20°-30°	312.9	20.7
30°-40°	323.5	21.4
40°-50°	267.3	17.7
50°-60°	184.5	12.2
60°-70°	96.6	6.4
70°-80°	30.4	2.0
80°-90°	2.6	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°	604.3	40.0
0°-40°	927.9	61.5
0°-60°	1379.7	91.4
0°-90°	1509.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1509.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	787	787	787	787	787	
5°	780	784	785	787	788	75
15°	784	776	761	764	773	221
25°	716	687	655	681	706	327
35°	532	514	498	524	542	330
45°	336	335	340	356	362	262
55°	210	204	202	207	208	189
65°	120	109	94	78	84	119
75°	51	40	21	14	14	55
85°	4	2	1	1	1	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°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	782.2	782.4	782.4	783.1	783.1	783.1	783.4	783.4	783.7	783.9	784.2
5°	779.8	779.8	780.4	780.7	781.3	781.6	782.2	782.4	783.1	783.4	783.7
7.5°	782.2	782.2	782.4	782.8	782.8	783.1	783.1	783.4	783.7	783.9	783.9
10°	783.7	783.7	783.7	783.7	783.9	783.9	783.9	783.7	783.7	783.7	783.4
12.5°	784.2	784.2	783.9	783.7	783.9	783.7	783.7	782.8	782.2	781.6	780.7
15°	783.7	783.7	783.4	783.1	782.8	782.2	781.9	780.4	779.3	777.5	776.3
17.5°	779.8	779.3	778.6	778.1	776.8	776.0	775.4	772.7	770.7	767.7	764.5
20°	766.3	765.6	764.8	763.3	761.8	760.7	758.9	755.0	752.9	748.5	745.2
22.5°	744.0	743.5	743.7	741.1	738.1	736.3	735.2	732.0	728.4	722.8	719.2
25°	716.2	714.5	714.5	710.3	708.9	707.7	706.2	702.4	697.1	692.0	687.3
27.5°	680.2	677.8	676.7	676.0	672.5	669.9	667.8	664.8	660.4	655.9	649.5
30°	635.3	635.0	633.5	630.9	628.1	627.0	624.6	619.6	615.4	612.3	608.0
32.5°	582.3	582.0	582.0	582.0	580.3	580.0	576.4	573.8	570.5	565.5	562.9
35°	532.1	531.8	532.1	527.7	526.5	525.6	525.3	523.5	519.1	516.8	514.3
37.5°	475.3	476.3	475.6	474.5	475.9	473.3	475.3	471.5	469.7	469.2	466.5
40°	424.2	426.5	424.2	424.5	426.0	423.4	423.4	422.7	421.6	420.9	420.4
42.5°	380.4	377.5	379.3	377.8	379.3	378.4	376.9	377.8	378.1	376.9	376.6
45°	336.4	337.0	337.6	336.8	336.8	335.8	338.2	336.8	336.8	337.0	335.0
47.5°	300.7	299.7	300.4	299.7	300.1	299.4	300.1	300.4	299.7	299.7	297.9
50°	266.9	266.3	268.4	266.6	266.6	266.3	266.6	266.1	265.1	265.1	265.8
52.5°	237.7	236.5	236.2	237.7	235.6	235.6	235.9	235.3	234.2	233.5	232.0
55°	210.5	210.2	210.5	209.3	208.7	208.7	207.2	206.7	206.3	204.9	204.0
57.5°	185.1	184.1	184.5	184.1	183.0	182.7	181.5	181.5	180.3	179.2	177.7
60°	160.9	160.9	161.7	160.5	159.6	159.1	158.4	157.9	155.8	153.7	152.0
62.5°	139.2	139.5	139.2	138.3	137.7	137.2	136.5	134.8	133.1	131.9	129.8
65°	120.4	120.0	119.1	118.6	117.1	117.1	115.9	115.0	113.0	111.2	109.0
67.5°	100.8	100.3	100.3	100.3	98.5	98.1	97.5	95.8	94.0	91.6	89.9
70°	83.0	83.7	82.8	81.9	81.0	80.7	79.9	78.1	75.9	73.6	72.1
72.5°	66.2	66.8	65.9	65.7	63.9	63.2	62.9	61.4	59.1	57.6	55.3
75°	50.9	51.2	50.6	49.9	48.8	48.4	47.0	45.8	44.3	42.0	39.9
77.5°	36.7	36.1	36.1	34.9	33.7	33.7	33.4	31.6	29.6	27.8	26.0
80°	23.4	23.1	22.2	21.6	20.7	20.4	20.1	18.6	17.1	16.0	14.8
82.5°	11.8	11.5	11.2	10.9	10.4	9.7	10.0	8.9	8.2	7.1	6.2
85°	3.6	3.8	3.8	3.6	3.3	3.3	3.3	3.0	2.3	2.1	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	784.6	784.9	785.2	785.4	785.4	785.7	786.0	786.4	786.7	786.7	786.9
5°	783.9	784.6	784.6	784.9	784.9	784.9	785.2	785.2	785.2	785.2	785.4
7.5°	784.2	784.2	784.2	783.9	783.9	783.7	783.7	783.7	783.1	783.1	783.1
10°	782.8	782.4	782.2	781.6	781.3	781.1	780.4	779.8	779.3	778.9	778.3
12.5°	779.8	778.6	777.5	776.3	775.7	775.4	774.2	773.3	772.4	771.5	770.9
15°	773.9	772.2	770.1	767.7	767.1	766.6	764.5	762.7	761.5	760.7	759.2
17.5°	762.1	758.5	756.2	752.6	751.1	750.6	747.3	745.5	743.5	742.9	741.7
20°	741.1	737.8	733.5	730.2	728.4	726.6	724.0	721.6	719.2	719.2	717.7
22.5°	714.7	710.6	705.0	700.9	700.6	697.1	694.7	692.0	691.2	689.4	689.4
25°	681.6	678.2	671.9	668.4	666.6	665.7	661.9	658.4	656.6	655.1	656.3
27.5°	645.1	639.7	635.0	630.6	629.1	627.3	623.8	622.3	619.0	618.7	618.4
30°	603.1	597.8	593.0	590.9	587.9	586.5	583.8	582.0	580.9	580.9	580.3
32.5°	559.0	554.3	551.9	547.4	546.0	543.9	542.1	540.3	541.0	540.3	540.7
35°	511.4	510.2	505.8	503.1	503.1	502.8	499.8	498.7	498.1	498.4	499.8
37.5°	466.2	462.6	459.6	458.0	459.4	457.6	457.3	457.3	459.1	458.0	460.3
40°	418.0	417.7	416.5	417.1	417.4	415.3	416.0	416.2	417.4	419.8	420.1
42.5°	376.0	375.8	375.8	375.8	375.1	374.0	375.1	377.2	376.9	378.6	380.1
45°	335.5	335.0	336.1	335.3	337.0	337.6	336.8	337.3	339.1	340.2	342.6
47.5°	298.6	298.6	298.9	299.4	297.7	299.2	299.7	300.9	301.8	302.4	303.6
50°	264.3	264.3	263.7	263.7	263.7	264.6	263.4	264.8	265.1	267.6	269.0
52.5°	232.7	231.2	232.0	231.5	230.2	229.7	230.2	230.6	232.4	232.9	234.7
55°	202.5	202.5	200.1	199.6	200.4	200.1	199.8	199.8	200.7	201.6	203.1
57.5°	175.9	174.1	172.4	172.1	171.1	171.4	171.4	171.1	170.6	170.9	171.1
60°	150.7	149.5	146.9	146.9	146.6	146.4	144.9	144.6	143.1	143.4	142.1
62.5°	127.7	127.1	123.5	122.4	122.4	121.5	120.0	119.7	117.6	117.6	116.4
65°	107.0	105.2	103.1	101.1	101.1	99.9	99.0	96.4	94.9	94.0	92.2
67.5°	88.1	85.5	83.3	81.5	80.4	80.1	78.1	76.3	73.9	72.4	69.8
70°	69.8	67.7	65.7	63.9	62.7	61.4	59.4	56.8	55.0	52.4	50.6
72.5°	52.7	50.9	49.1	46.7	45.3	44.3	42.3	39.9	36.9	35.2	32.8
75°	37.9	35.7	33.4	31.3	30.5	29.6	27.2	25.4	23.4	21.3	18.9
77.5°	24.5	22.2	20.4	18.0	17.8	17.1	14.8	13.0	11.5	10.4	8.9
80°	13.0	11.8	10.4	8.9	8.2	7.4	6.2	5.3	4.4	3.6	3.0
82.5°	5.6	4.8	3.8	3.3	3.0	2.6	2.1	1.8	1.5	1.5	1.2
85°	1.5	1.2	1.2	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	787.2	787.5	787.8	787.8	788.1	788.4	788.4	788.7	789.0	789.3	789.3
5°	785.7	785.7	785.7	786.0	786.0	786.0	786.0	786.7	786.7	786.9	787.2
7.5°	782.8	782.8	782.8	782.8	782.4	782.8	782.4	782.4	783.1	783.4	783.7
10°	778.1	777.8	777.8	777.5	777.5	777.5	777.8	778.1	778.3	778.6	779.6
12.5°	770.7	770.4	770.4	770.1	770.1	770.4	770.7	771.2	772.4	773.0	774.2
15°	758.9	758.5	758.9	759.2	759.7	760.7	761.5	762.3	764.1	765.6	767.1
17.5°	741.7	742.0	742.2	742.9	743.7	745.0	747.3	749.7	751.8	754.1	756.5
20°	718.0	719.2	719.5	721.6	722.2	724.8	727.5	731.0	734.3	737.3	740.6
22.5°	689.7	690.5	691.7	694.1	695.6	699.1	702.4	706.5	710.1	713.9	718.7
25°	657.4	657.7	661.3	661.3	664.8	667.8	671.6	676.0	681.4	686.4	689.7
27.5°	620.8	622.3	625.0	626.1	628.8	633.5	636.8	642.1	647.4	651.8	655.4
30°	582.3	583.5	587.9	588.6	590.7	594.8	599.3	604.2	608.4	613.4	616.6
32.5°	541.8	545.1	547.7	549.9	550.4	556.6	559.0	562.6	567.3	572.3	575.6
35°	502.6	504.1	507.9	509.0	510.8	514.3	519.1	522.0	524.4	527.7	531.5
37.5°	460.8	465.3	466.2	469.7	470.3	473.6	475.9	479.5	482.5	485.3	486.0
40°	422.1	423.6	426.9	427.7	428.3	432.8	435.7	436.6	438.1	440.7	444.3
42.5°	382.9	384.3	387.8	387.0	389.6	391.6	393.1	396.7	398.2	399.0	399.0
45°	344.0	344.7	347.0	348.3	349.8	350.9	353.6	355.4	355.9	358.5	359.5
47.5°	307.1	307.8	309.5	311.6	310.9	312.4	315.4	316.3	316.5	318.3	319.3
50°	270.8	272.2	274.7	274.0	275.8	276.7	279.3	280.0	280.0	280.3	280.5
52.5°	236.8	238.0	238.6	239.1	240.1	241.6	242.7	242.1	243.3	244.5	243.6
55°	203.1	204.0	205.5	206.0	206.0	206.3	205.7	208.5	207.2	207.0	207.2
57.5°	172.4	171.1	170.9	172.4	172.9	172.6	171.8	172.9	172.9	172.4	171.4
60°	142.5	141.6	141.3	141.6	140.5	139.5	140.1	139.5	138.0	137.5	137.7
62.5°	115.3	114.4	112.0	112.0	111.5	111.2	108.8	109.0	107.9	106.1	106.7
65°	90.1	87.8	86.6	86.3	84.3	82.5	81.9	79.9	78.1	77.7	78.1
67.5°	67.7	65.0	62.9	62.1	60.9	59.4	57.3	55.5	56.2	55.8	57.0
70°	47.0	45.3	43.2	41.7	42.3	40.5	39.3	39.3	39.7	39.9	40.5
72.5°	31.3	29.0	28.1	27.2	26.7	25.4	26.0	26.0	25.7	26.0	25.4
75°	17.8	16.6	15.7	15.3	14.8	14.8	14.8	14.8	14.5	14.2	14.2
77.5°	7.9	7.4	7.1	6.8	6.8	6.8	6.5	6.2	6.2	6.2	5.9
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	1.2	1.2	1.5	1.5	1.5	1.2	1.5	1.5	1.2	1.2	1.5
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.0	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):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	789.6	789.8	789.8	789.8	790.2	790.2	790.2	790.2
5°	787.5	787.8	787.8	787.8	788.1	788.1	788.1	788.1
7.5°	783.9	784.2	784.2	784.6	784.6	784.9	784.9	785.2
10°	779.8	780.4	780.7	781.1	781.3	781.6	781.6	781.9
12.5°	775.4	776.0	776.3	776.8	777.5	777.8	778.1	778.3
15°	768.9	770.1	770.7	770.9	772.2	772.7	773.0	773.3
17.5°	758.5	760.9	761.8	762.3	763.6	764.8	765.6	765.9
20°	743.7	746.4	747.6	749.1	750.8	752.3	752.9	753.6
22.5°	723.1	726.1	727.8	729.6	731.0	732.5	734.8	734.0
25°	693.5	698.6	700.6	701.5	704.7	706.5	707.7	706.5
27.5°	660.4	663.3	665.1	667.2	669.6	671.4	671.9	673.7
30°	620.5	625.5	625.3	627.3	630.2	632.0	632.6	634.1
32.5°	579.1	581.5	583.3	583.0	584.1	587.4	586.2	588.9
35°	535.1	535.4	538.3	538.0	540.3	540.3	540.3	542.1
37.5°	488.1	491.6	490.1	493.7	492.5	493.4	493.4	494.0
40°	445.2	446.4	446.4	447.6	448.4	447.6	448.1	449.6
42.5°	400.8	402.0	402.3	401.7	402.6	405.3	403.2	405.0
45°	359.5	360.3	361.5	360.7	362.1	361.3	362.1	361.5
47.5°	320.5	320.1	319.8	322.3	320.1	320.5	321.6	319.5
50°	280.5	282.3	281.1	282.0	282.6	282.6	281.8	281.8
52.5°	245.1	244.7	243.9	244.7	244.2	244.5	245.1	244.5
55°	208.5	209.6	209.0	208.7	209.0	209.0	210.8	208.5
57.5°	172.4	171.8	172.6	174.7	172.6	174.1	175.0	175.2
60°	138.0	138.0	139.8	139.0	140.7	142.1	143.4	142.8
62.5°	105.2	106.7	107.3	107.6	109.4	110.5	110.5	110.3
65°	78.1	80.1	80.1	81.3	81.9	81.9	82.5	83.7
67.5°	57.6	57.6	58.0	58.5	58.3	58.3	58.8	59.1
70°	40.2	39.7	40.5	40.2	40.2	39.9	40.2	40.2
72.5°	25.4	25.4	25.7	25.4	24.9	25.2	25.2	25.7
75°	13.6	14.2	13.6	13.6	13.9	13.3	13.6	13.9
77.5°	5.6	5.6	5.6	5.6	5.6	5.3	5.3	5.3
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.3
82.5°	1.2	1.5	1.2	1.5	1.2	1.2	1.2	1.2
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.0	0.3	0.0	0.3	0.0	0.0	0.0	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)