

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: P843441

Luminaire Tested: **LD4C20DE010B2750 EU4C20B30 4LBLWWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843441
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 EU4C20B30 4LBLWWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

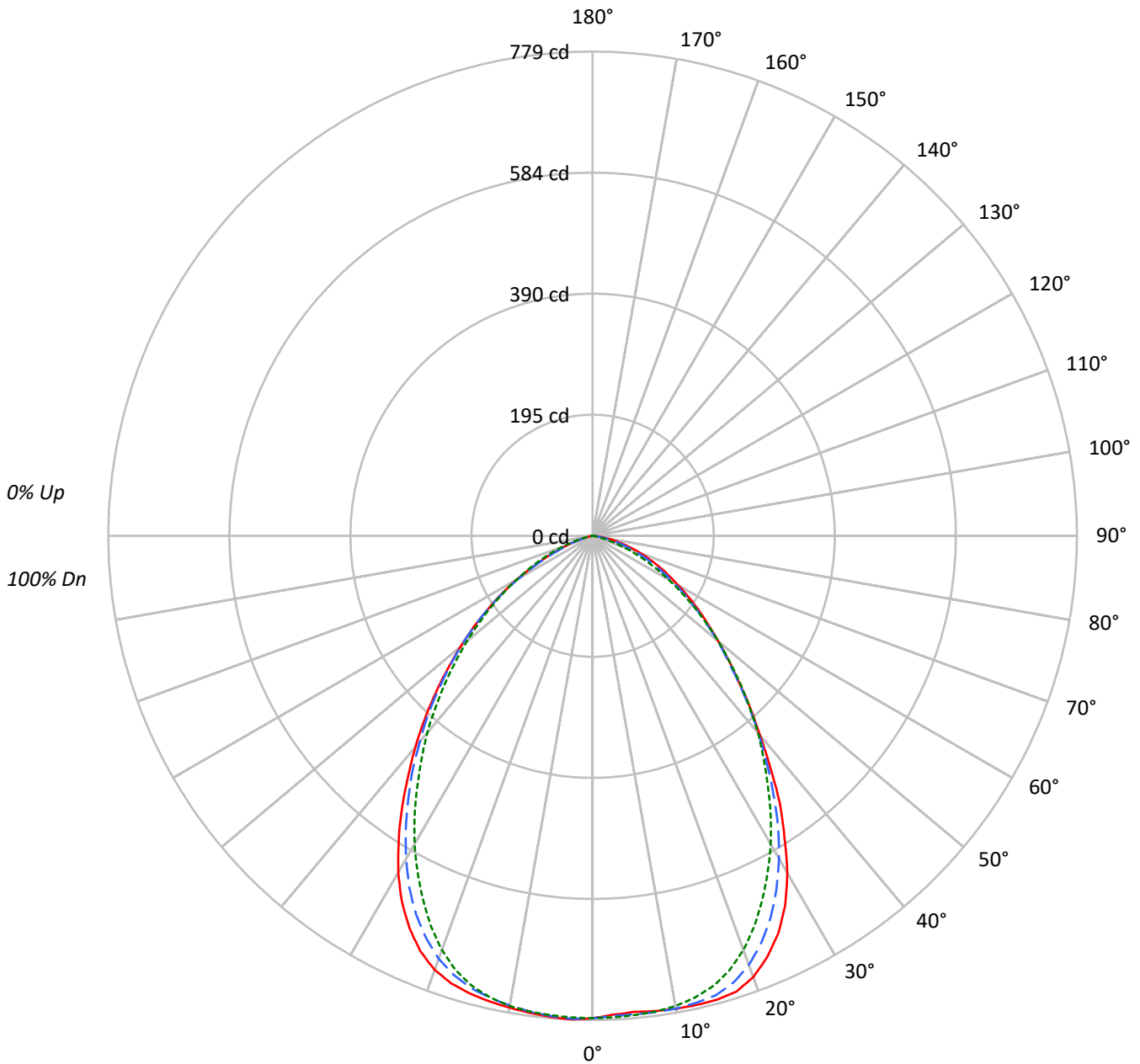
Lumens per Lamp: N/A
Luminaire Lumens: 1488.1 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.12 / 1.18
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

Luminous Intensity Polar Plot





TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89					89			
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78					78			
3	95	87	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68					68			
4	88	78	71	65	86	77	70	65	75	69	64	72	67	63	70	66	62	60					60			
5	82	71	63	57	80	70	63	57	68	61	57	66	60	56	64	59	55	54					54			
6	76	65	57	51	75	64	56	51	62	56	51	61	55	50	59	54	50	48					48			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43					43			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	50	45	41	39					39			
9	63	51	43	38	61	50	43	38	49	42	38	48	42	38	47	41	37	36					36			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	35	44	38	34	33					33			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	95359	95359	95359
5°	94823	95476	95822
10°	96393	95819	96169
15°	98278	95390	96968
20°	98773	92706	97138
25°	95728	87554	94440
30°	88846	81243	88690
35°	78693	73698	80162
40°	67084	66379	71110
45°	57630	58290	61921
50°	50304	50419	53076
55°	44444	42581	44016
60°	38945	34743	34596
65°	34506	26918	23982
70°	29418	18535	14260
75°	23781	9921	6503
80°	16343	2476	1627
85°	4934	846	846



TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	5.0
10°-20°	213.5	14.4
20°-30°	308.6	20.7
30°-40°	319.0	21.4
40°-50°	263.6	17.7
50°-60°	181.9	12.2
60°-70°	95.2	6.4
70°-80°	30.0	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°	595.9	40.0
0°-40°	914.9	61.5
0°-60°	1360.3	91.4
0°-90°	1488.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1488.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	776	776	776	776	776	
5°	769	773	774	776	777	74
15°	773	765	750	754	762	218
25°	706	678	646	672	697	322
35°	525	507	491	517	534	326
45°	332	330	336	351	356	259
55°	208	201	199	204	206	186
65°	119	108	93	77	82	118
75°	50	39	21	14	14	54
85°	4	2	1	1	1	7
90°	0	0	0	0	0	



TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2
2.5°	771.2	771.5	771.5	772.1	772.1	772.1	772.4	772.4	772.7	773.0	773.2
5°	768.9	768.9	769.5	769.7	770.4	770.7	771.2	771.5	772.1	772.4	772.7
7.5°	771.2	771.2	771.5	771.9	771.9	772.1	772.1	772.4	772.7	773.0	773.0
10°	772.7	772.7	772.7	772.7	773.0	773.0	773.0	772.7	772.7	772.7	772.4
12.5°	773.2	773.2	773.0	772.7	773.0	772.7	772.7	771.9	771.2	770.7	769.7
15°	772.7	772.7	772.4	772.1	771.9	771.2	770.9	769.5	768.3	766.6	765.4
17.5°	768.9	768.3	767.7	767.1	765.9	765.1	764.6	761.9	759.9	756.9	753.8
20°	755.5	754.9	754.0	752.6	751.1	750.0	748.2	744.4	742.4	738.0	734.8
22.5°	733.7	733.0	733.4	730.7	727.8	726.1	724.9	721.7	718.1	712.6	709.1
25°	706.2	704.5	704.5	700.4	699.0	697.8	696.3	692.5	687.3	682.3	677.6
27.5°	670.6	668.3	667.2	666.6	663.1	660.5	658.5	655.5	651.2	646.7	640.4
30°	626.3	626.1	624.6	622.0	619.4	618.2	615.9	610.9	606.9	603.6	599.6
32.5°	574.2	573.9	573.9	573.9	572.2	571.9	568.4	565.7	562.6	557.6	554.9
35°	524.7	524.4	524.7	520.3	519.1	518.2	517.9	516.2	511.8	509.5	507.1
37.5°	468.6	469.6	469.0	467.8	469.3	466.6	468.6	464.9	463.1	462.6	460.0
40°	418.3	420.6	418.3	418.5	420.0	417.3	417.3	416.8	415.7	415.0	414.5
42.5°	375.1	372.2	374.0	372.5	374.0	373.1	371.7	372.5	372.8	371.7	371.3
45°	331.7	332.3	332.8	332.0	332.0	331.1	333.5	332.0	332.0	332.3	330.2
47.5°	296.5	295.5	296.1	295.5	295.8	295.3	295.8	296.1	295.5	295.5	293.8
50°	263.2	262.6	264.6	262.9	262.9	262.6	262.9	262.3	261.4	261.4	262.1
52.5°	234.4	233.2	232.9	234.4	232.3	232.3	232.6	232.0	230.9	230.2	228.8
55°	207.5	207.2	207.5	206.3	205.8	205.8	204.3	203.7	203.5	202.0	201.2
57.5°	182.4	181.6	181.9	181.6	180.4	180.1	179.0	179.0	177.8	176.6	175.1
60°	158.5	158.5	159.4	158.2	157.4	156.8	156.2	155.7	153.6	151.6	149.9
62.5°	137.3	137.6	137.3	136.4	135.8	135.3	134.6	132.9	131.1	130.0	128.0
65°	118.7	118.3	117.5	116.9	115.4	115.4	114.2	113.4	111.4	109.6	107.6
67.5°	99.4	98.8	98.8	98.8	97.1	96.8	96.1	94.4	92.6	90.3	88.6
70°	81.9	82.5	81.6	80.7	79.9	79.5	78.7	77.0	74.9	72.6	71.1
72.5°	65.3	65.9	65.0	64.7	62.9	62.4	62.1	60.6	58.3	56.8	54.5
75°	50.1	50.4	49.8	49.3	48.1	47.8	46.3	45.2	43.7	41.4	39.3
77.5°	36.2	35.5	35.5	34.4	33.2	33.2	32.9	31.2	29.2	27.4	25.7
80°	23.1	22.7	21.9	21.3	20.4	20.1	19.8	18.4	16.9	15.8	14.6
82.5°	11.6	11.3	11.1	10.8	10.2	9.6	9.9	8.8	8.1	7.0	6.1
85°	3.5	3.8	3.8	3.5	3.2	3.2	3.2	3.0	2.3	2.0	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



TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2
2.5°	773.6	773.9	774.2	774.4	774.4	774.7	775.0	775.4	775.6	775.6	775.9
5°	773.0	773.6	773.6	773.9	773.9	773.9	774.2	774.2	774.2	774.2	774.4
7.5°	773.2	773.2	773.2	773.0	773.0	772.7	772.7	772.7	772.1	772.1	772.1
10°	771.9	771.5	771.2	770.7	770.4	770.1	769.5	768.9	768.3	768.1	767.4
12.5°	768.9	767.7	766.6	765.4	764.8	764.6	763.4	762.4	761.6	760.8	760.1
15°	763.1	761.3	759.3	756.9	756.3	755.8	753.8	752.0	750.8	750.0	748.5
17.5°	751.4	748.0	745.6	742.0	740.7	740.0	736.9	735.1	733.0	732.5	731.2
20°	730.7	727.5	723.1	719.9	718.1	716.4	713.8	711.5	709.1	709.1	707.7
22.5°	704.8	700.7	695.2	691.1	690.7	687.3	684.9	682.3	681.4	679.7	679.7
25°	672.1	668.6	662.5	659.0	657.2	656.4	652.6	649.1	647.4	645.9	647.1
27.5°	636.0	630.8	626.1	621.7	620.2	618.5	615.0	613.5	610.4	610.0	609.7
30°	594.6	589.3	584.7	582.7	579.7	578.3	575.7	573.9	572.7	572.7	572.2
32.5°	551.1	546.5	544.2	539.8	538.3	536.3	534.5	532.8	533.4	532.8	533.0
35°	504.3	503.1	498.7	496.0	496.0	495.8	492.9	491.7	491.2	491.4	492.9
37.5°	459.6	456.2	453.2	451.5	453.0	451.2	450.9	450.9	452.7	451.5	453.8
40°	412.2	411.8	410.7	411.3	411.5	409.5	410.2	410.4	411.5	413.9	414.2
42.5°	370.7	370.5	370.5	370.5	369.9	368.7	369.9	371.9	371.7	373.3	374.8
45°	330.8	330.2	331.4	330.5	332.3	332.8	332.0	332.5	334.3	335.5	337.8
47.5°	294.3	294.3	294.7	295.3	293.5	295.0	295.5	296.7	297.6	298.1	299.3
50°	260.6	260.6	260.0	260.0	260.0	260.9	259.6	261.1	261.4	263.8	265.3
52.5°	229.4	227.9	228.8	228.2	227.1	226.4	227.1	227.4	229.1	229.7	231.4
55°	199.7	199.7	197.4	196.7	197.6	197.4	197.0	197.0	197.9	198.8	200.2
57.5°	173.5	171.7	170.0	169.6	168.8	169.0	169.0	168.8	168.2	168.5	168.8
60°	148.6	147.4	144.9	144.9	144.6	144.3	142.8	142.6	141.1	141.4	140.2
62.5°	126.0	125.3	121.8	120.7	120.7	119.8	118.3	118.0	116.0	116.0	114.9
65°	105.6	103.8	101.7	99.7	99.7	98.5	97.6	95.0	93.6	92.6	91.0
67.5°	86.8	84.2	82.2	80.5	79.3	79.0	77.0	75.2	72.9	71.4	68.7
70°	68.7	66.7	64.7	62.9	61.8	60.6	58.6	55.9	54.3	51.6	49.8
72.5°	51.9	50.1	48.3	46.0	44.6	43.7	41.7	39.3	36.4	34.7	32.4
75°	37.3	35.2	32.9	30.9	30.0	29.2	26.9	25.1	23.1	20.9	18.6
77.5°	24.2	21.9	20.1	17.8	17.5	16.9	14.6	12.8	11.3	10.2	8.8
80°	12.8	11.6	10.2	8.8	8.1	7.3	6.1	5.3	4.3	3.5	3.0
82.5°	5.5	4.7	3.8	3.2	3.0	2.6	2.0	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



TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2
2.5°	776.2	776.5	776.7	776.7	777.0	777.4	777.4	777.7	777.9	778.2	778.2
5°	774.7	774.7	774.7	775.0	775.0	775.0	775.0	775.6	775.6	775.9	776.2
7.5°	771.9	771.9	771.9	771.9	771.5	771.9	771.5	771.5	772.1	772.4	772.7
10°	767.1	766.9	766.9	766.6	766.6	766.6	766.9	767.1	767.4	767.7	768.6
12.5°	759.9	759.6	759.6	759.3	759.3	759.6	759.9	760.4	761.6	762.2	763.4
15°	748.2	748.0	748.2	748.5	749.1	750.0	750.8	751.7	753.5	754.9	756.3
17.5°	731.2	731.6	731.9	732.5	733.4	734.5	736.9	739.2	741.2	743.5	745.8
20°	708.0	709.1	709.5	711.5	712.1	714.6	717.3	720.8	724.1	726.9	730.1
22.5°	680.0	680.9	682.1	684.4	685.9	689.4	692.5	696.7	700.2	703.9	708.6
25°	648.2	648.5	652.0	652.0	655.5	658.5	662.2	666.6	671.8	676.8	680.0
27.5°	612.1	613.5	616.2	617.3	620.0	624.6	627.8	633.1	638.3	642.7	646.2
30°	574.2	575.4	579.7	580.3	582.3	586.5	590.8	595.8	599.9	604.8	608.0
32.5°	534.3	537.5	540.1	542.1	542.7	548.8	551.1	554.6	559.4	564.2	567.5
35°	495.5	497.0	500.8	502.0	503.6	507.1	511.8	514.8	517.1	520.3	524.1
37.5°	454.4	458.8	459.6	463.1	463.8	466.9	469.3	472.8	475.7	478.6	479.2
40°	416.2	417.7	420.8	421.8	422.3	426.8	429.6	430.5	431.9	434.6	438.1
42.5°	377.5	379.0	382.4	381.5	384.1	386.2	387.6	391.1	392.6	393.4	393.4
45°	339.3	339.8	342.1	343.3	344.8	346.0	348.6	350.4	350.9	353.6	354.4
47.5°	302.8	303.4	305.1	307.2	306.6	308.1	311.1	311.9	312.2	313.9	314.8
50°	266.9	268.4	270.8	270.2	271.9	272.8	275.4	276.0	276.0	276.4	276.6
52.5°	233.4	234.6	235.2	235.9	236.7	238.2	239.3	238.7	239.9	241.0	240.2
55°	200.2	201.2	202.5	203.2	203.2	203.5	202.9	205.5	204.3	204.0	204.3
57.5°	170.0	168.8	168.5	170.0	170.5	170.2	169.3	170.5	170.5	170.0	169.0
60°	140.5	139.6	139.3	139.6	138.4	137.6	138.1	137.6	136.1	135.5	135.8
62.5°	113.7	112.8	110.4	110.4	109.9	109.6	107.2	107.6	106.4	104.6	105.2
65°	88.9	86.5	85.4	85.1	83.0	81.3	80.7	78.7	77.0	76.7	77.0
67.5°	66.7	64.1	62.1	61.2	60.1	58.6	56.6	54.8	55.4	55.1	56.3
70°	46.3	44.6	42.5	41.1	41.7	40.0	38.8	38.8	39.0	39.3	40.0
72.5°	30.9	28.6	27.7	26.9	26.2	25.1	25.7	25.7	25.4	25.7	25.1
75°	17.5	16.3	15.4	15.1	14.6	14.6	14.6	14.6	14.3	14.0	14.0
77.5°	7.8	7.3	7.0	6.7	6.7	6.7	6.5	6.1	6.1	6.1	5.8
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



TEST NUMBER: P843441

CATALOG NUMBER: LD4C20DE010B2750 EU4C20B30 4LBLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	776.2	776.2	776.2	776.2	776.2	776.2	776.2	776.2
2.5°	778.5	778.8	778.8	778.8	779.1	779.1	779.1	779.1
5°	776.5	776.7	776.7	776.7	777.0	777.0	777.0	777.0
7.5°	773.0	773.2	773.2	773.6	773.6	773.9	773.9	774.2
10°	768.9	769.5	769.7	770.1	770.4	770.7	770.7	770.9
12.5°	764.6	765.1	765.4	765.9	766.6	766.9	767.1	767.4
15°	758.1	759.3	759.9	760.1	761.3	761.9	762.2	762.4
17.5°	748.0	750.3	751.1	751.7	752.8	754.0	754.9	755.2
20°	733.4	736.0	737.2	738.5	740.3	741.8	742.4	743.0
22.5°	713.0	715.8	717.6	719.3	720.8	722.3	724.6	723.7
25°	683.8	688.7	690.7	691.7	694.9	696.7	697.8	696.7
27.5°	651.2	654.0	655.8	657.8	660.2	662.0	662.5	664.3
30°	611.8	616.7	616.5	618.5	621.5	623.2	623.8	625.2
32.5°	571.0	573.3	575.0	574.8	576.0	579.2	578.0	580.6
35°	527.5	527.9	530.7	530.5	532.8	532.8	532.8	534.5
37.5°	481.2	484.7	483.2	486.7	485.6	486.5	486.5	487.0
40°	438.9	440.1	440.1	441.2	442.2	441.2	441.9	443.4
42.5°	395.2	396.4	396.7	396.1	396.9	399.6	397.6	399.4
45°	354.4	355.3	356.4	355.6	357.1	356.2	357.1	356.4
47.5°	315.9	315.7	315.4	317.7	315.7	315.9	317.1	315.1
50°	276.6	278.4	277.2	278.1	278.7	278.7	277.7	277.7
52.5°	241.7	241.4	240.5	241.4	240.7	241.0	241.7	241.0
55°	205.5	206.7	206.0	205.8	206.0	206.0	207.8	205.5
57.5°	170.0	169.3	170.2	172.3	170.2	171.7	172.5	172.8
60°	136.1	136.1	137.9	137.0	138.8	140.2	141.4	140.8
62.5°	103.8	105.2	105.8	106.1	107.9	109.0	109.0	108.7
65°	77.0	79.0	79.0	80.2	80.7	80.7	81.3	82.5
67.5°	56.8	56.8	57.1	57.7	57.4	57.4	58.0	58.3
70°	39.7	39.0	40.0	39.7	39.7	39.3	39.7	39.7
72.5°	25.1	25.1	25.4	25.1	24.4	24.7	24.7	25.4
75°	13.4	14.0	13.4	13.4	13.7	13.1	13.4	13.7
77.5°	5.5	5.5	5.5	5.5	5.5	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)