

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: P858298

Luminaire Tested: **LD4C10W2N2050D010 4LBSWNL1\_3500K**

Issue Date: 11/9/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P858298  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 11/9/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C10W2N2050D010 4LBSWNL\_3500K  
Description: 4 INCH 1000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, W2N2050 LEDS AND 4LBSWNL TRIM WITH FINISH  
  
Light Source: -  
Ballast/Driver: -

**Summary**

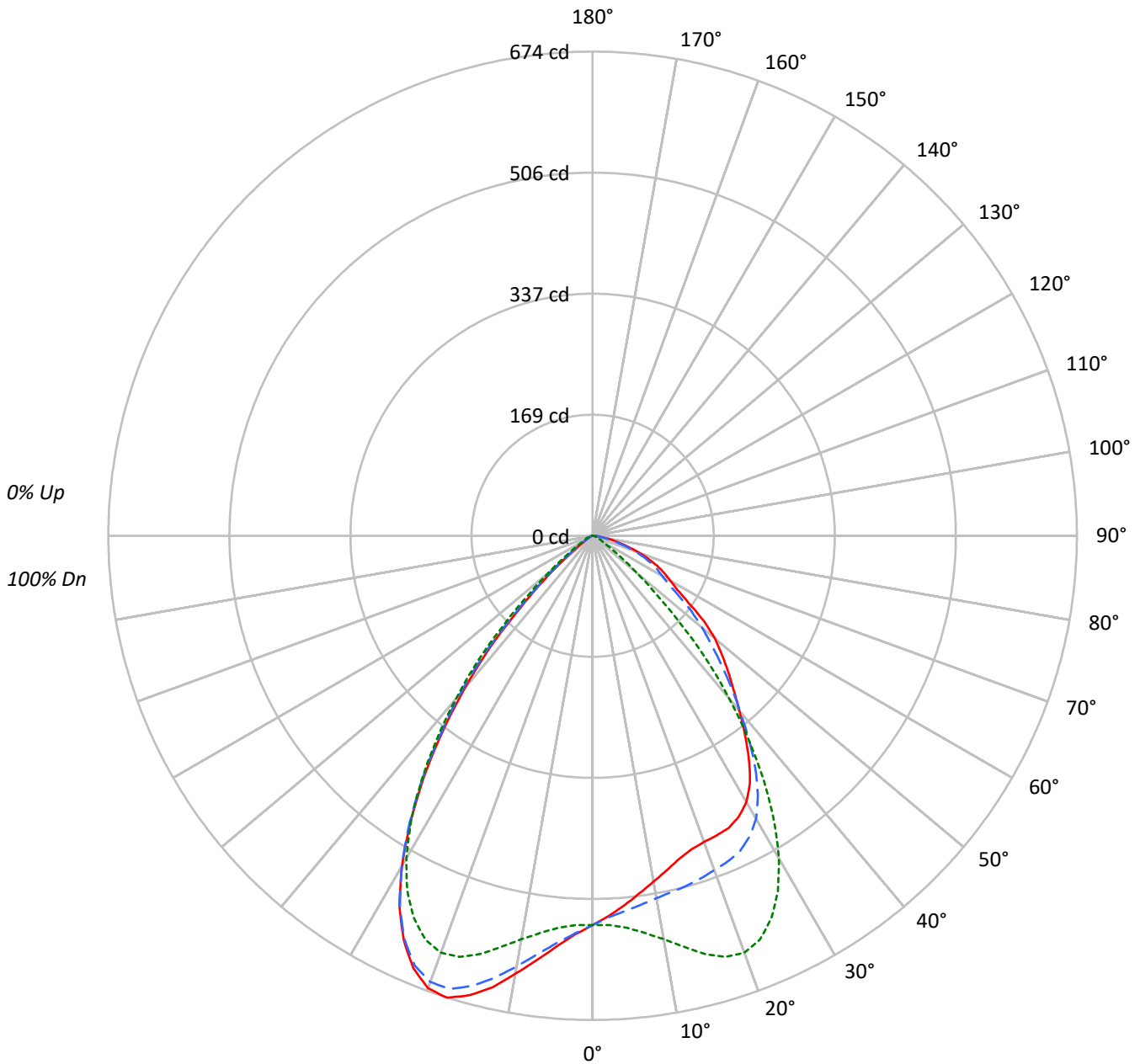
Lumens per Lamp: N/A  
Luminaire Lumens: 1000.0 lumens  
Efficiency: N/A  
Efficacy: 76.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 13  
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									
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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

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

	0°	90°	180°
0°	66574	66574	66574
5°	63598	67532	70750
10°	60977	71132	77219
15°	59206	76656	84223
20°	59290	80744	87594
25°	60796	79692	84287
30°	60716	73554	75270
35°	56871	62180	61325
40°	50935	47423	44247
45°	46215	30109	24706
50°	42449	15271	10550
55°	34848	6811	3491
60°	30591	3833	1917
65°	28779	2878	1453
70°	24641	2299	1257
75°	18797	1661	997
80°	13513	990	495
85°	10008	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.6	5.3
10°-20°	164.0	16.4
20°-30°	253.8	25.4
30°-40°	250.1	25.0
40°-50°	153.6	15.4
50°-60°	68.3	6.8
60°-70°	38.1	3.8
70°-80°	16.5	1.6
80°-90°	2.9	0.3
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°	470.5	47.1
0°-40°	720.6	72.1
0°-60°	942.4	94.2
0°-90°	1000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1000.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	542	542	542	542	542	
5°	516	524	548	569	574	48
15°	466	504	603	649	662	132
25°	448	485	588	620	622	206
35°	379	395	415	413	409	235
45°	266	252	173	151	142	206
55°	163	147	32	18	16	150
65°	99	89	10	6	5	97
75°	40	34	4	2	2	44
85°	7	6	0	0	0	9
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°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	529.2	529.2	529.2	529.2	530.6	528.5	530.6	530.6	532.7	533.4	531.3
5°	515.7	515.0	515.7	515.7	517.1	516.4	518.5	520.0	522.8	524.2	524.2
7.5°	501.6	501.6	501.6	503.0	505.1	504.4	506.5	508.6	512.9	515.7	517.8
10°	488.8	488.1	490.2	491.0	493.1	493.1	496.6	498.8	503.7	509.4	512.2
12.5°	476.8	476.1	477.5	479.7	483.2	483.2	486.0	489.6	496.6	503.0	507.9
15°	465.5	466.2	468.3	469.7	474.0	474.0	477.5	481.8	489.6	497.3	504.4
17.5°	457.7	458.4	459.8	461.9	466.2	466.2	469.7	474.7	483.2	491.7	500.2
20°	453.5	454.2	455.6	457.7	461.3	461.9	464.8	470.5	478.2	487.4	495.2
22.5°	451.4	452.8	454.2	455.6	459.1	459.1	462.7	466.9	474.7	483.9	491.0
25°	448.5	449.9	450.6	452.8	455.6	455.6	457.7	462.7	469.7	477.5	484.6
27.5°	440.7	442.2	442.8	445.0	447.8	447.1	449.9	453.5	459.8	466.9	472.6
30°	428.0	428.7	430.1	430.8	433.0	433.0	435.1	438.6	442.8	449.2	454.9
32.5°	407.5	408.9	409.6	410.3	412.4	411.7	412.4	414.6	418.8	424.5	428.0
35°	379.2	382.0	382.0	383.4	384.1	383.4	383.4	386.3	388.4	392.6	394.8
37.5°	348.1	350.2	349.5	350.9	351.6	349.5	350.9	351.6	354.4	356.5	357.3
40°	317.6	318.3	318.3	318.3	318.3	317.6	318.3	319.0	321.2	321.2	319.0
42.5°	290.0	290.8	290.8	289.3	290.8	290.0	290.0	290.0	290.0	287.2	285.1
45°	266.0	266.7	266.7	266.0	266.0	264.6	263.9	263.2	261.0	257.5	252.5
47.5°	243.3	244.8	245.5	244.1	243.3	241.9	241.9	237.7	234.9	230.6	223.6
50°	222.1	223.6	223.6	222.1	222.1	220.0	217.9	216.5	212.2	207.3	198.8
52.5°	195.3	197.4	197.4	196.7	196.7	193.8	193.1	190.3	186.8	181.1	174.0
55°	162.7	165.5	164.8	164.1	162.7	162.7	162.7	160.6	158.5	154.2	147.1
57.5°	139.4	140.1	140.1	139.4	139.4	137.9	137.9	135.8	135.1	130.9	125.2
60°	124.5	124.5	125.2	124.5	123.8	123.1	122.4	121.0	118.8	116.0	111.8
62.5°	112.5	113.2	113.2	112.5	111.8	111.1	110.4	109.0	107.5	105.4	101.2
65°	99.0	100.4	99.8	99.0	98.3	97.6	97.6	96.2	94.8	93.4	89.1
67.5°	84.2	84.9	85.6	84.2	84.2	83.5	83.5	82.1	81.3	78.5	75.7
70°	68.6	69.3	69.3	68.6	68.6	67.9	67.9	67.2	66.5	64.4	61.6
72.5°	53.8	54.5	53.8	53.0	53.0	53.0	52.4	51.6	50.9	49.5	47.4
75°	39.6	39.6	40.3	39.6	38.9	38.9	38.2	38.2	36.8	36.1	34.0
77.5°	28.3	29.0	28.3	28.3	27.6	26.9	26.9	26.2	26.2	25.5	24.1
80°	19.1	19.1	19.8	19.1	18.4	19.1	18.4	17.7	17.7	17.0	15.6
82.5°	12.0	12.7	12.0	12.0	12.0	12.0	12.0	11.3	11.3	10.6	9.9
85°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.4	6.4	6.4	5.7
87.5°	3.5	3.5	2.8	2.8	3.5	3.5	3.5	2.8	2.8	2.8	2.8
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°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	534.1	534.8	536.2	538.4	538.4	536.9	540.5	540.5	541.9	542.6	545.4
5°	528.5	529.9	532.7	536.2	536.9	536.2	541.2	543.3	545.4	547.6	551.8
7.5°	523.5	526.3	531.3	536.2	538.4	538.4	546.1	549.0	553.2	557.5	562.4
10°	520.7	524.9	532.0	539.8	541.9	544.0	553.2	558.9	564.5	570.2	577.3
12.5°	517.1	524.9	534.1	544.0	548.3	551.1	563.8	570.9	578.7	585.8	595.0
15°	516.4	525.6	537.7	550.4	556.0	560.3	574.4	584.3	593.5	602.7	611.9
17.5°	513.6	524.9	539.8	553.9	561.0	566.7	582.9	595.0	605.6	614.8	625.4
20°	510.1	522.8	539.1	554.6	562.4	568.1	585.8	597.1	609.1	617.6	627.5
22.5°	505.1	517.8	534.1	549.7	556.8	561.7	579.4	589.3	599.9	608.4	617.6
25°	496.6	508.6	522.8	535.5	542.6	546.8	562.4	571.6	579.4	587.9	596.4
27.5°	484.6	493.8	505.8	515.0	519.3	523.5	536.2	544.0	551.1	558.2	563.8
30°	463.4	470.5	478.9	486.7	491.0	491.7	503.7	507.9	513.6	518.5	522.8
32.5°	435.1	440.7	445.7	449.9	452.8	453.5	462.7	464.1	469.7	469.7	476.1
35°	399.0	401.8	405.3	405.3	407.5	405.3	411.7	413.1	413.9	414.6	419.5
37.5°	358.0	359.4	361.5	357.3	357.3	355.1	357.3	358.7	355.8	355.8	359.4
40°	319.0	316.2	313.4	309.1	307.0	302.8	302.8	299.3	297.1	295.7	296.4
42.5°	281.6	275.2	268.8	259.6	255.4	251.1	246.9	241.9	240.5	237.0	234.9
45°	245.5	236.3	227.8	212.9	204.5	200.2	191.0	181.1	174.8	173.3	167.7
47.5°	215.0	201.6	187.5	169.8	161.3	153.5	140.1	131.6	123.1	118.8	115.3
50°	188.2	176.2	157.8	138.7	128.0	120.3	105.4	95.5	86.3	79.9	75.7
52.5°	164.8	151.4	134.4	112.5	101.9	93.4	77.1	65.8	58.0	51.6	46.7
55°	138.7	128.0	111.1	90.5	79.9	70.0	55.9	43.9	36.1	31.8	28.3
57.5°	119.6	110.4	94.1	74.3	64.4	55.2	41.0	31.1	24.8	20.5	18.4
60°	106.8	98.3	84.2	65.1	55.9	47.4	34.0	24.8	19.1	15.6	14.1
62.5°	96.2	87.7	75.0	57.3	49.5	41.0	29.0	20.5	15.6	12.7	10.6
65°	84.2	76.4	65.1	49.5	42.4	35.4	24.8	17.0	12.7	9.9	8.5
67.5°	71.5	64.4	54.5	41.0	35.4	29.7	19.8	14.1	10.6	8.5	7.1
70°	58.0	52.4	43.2	33.3	28.3	23.3	16.3	11.3	7.8	6.4	5.7
72.5°	44.6	39.6	33.3	25.5	21.2	17.7	12.0	8.5	6.4	5.0	4.2
75°	31.8	28.3	23.3	18.4	15.6	12.7	9.2	6.4	4.2	3.5	2.8
77.5°	21.9	19.8	16.3	12.7	10.6	9.2	6.4	4.2	3.5	2.8	2.1
80°	14.1	12.7	10.6	7.8	6.4	5.7	3.5	2.8	2.1	1.4	1.4
82.5°	8.5	7.8	6.4	4.2	3.5	2.8	2.1	1.4	1.4	0.7	0.7
85°	5.0	4.2	2.8	2.1	2.1	1.4	1.4	0.7	0.7	0.0	0.0
87.5°	2.1	1.4	1.4	0.7	0.7	0.7	0.7	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°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	544.0	547.6	546.8	549.0	548.3	548.3	551.8	550.4	553.9	553.9	554.6
5°	551.8	556.8	556.8	560.3	559.6	561.0	564.5	564.5	568.8	570.2	570.2
7.5°	563.1	569.5	570.9	574.4	575.1	578.0	580.8	581.5	587.2	588.6	589.3
10°	578.7	586.5	588.6	592.1	593.5	596.4	599.9	601.3	608.4	609.1	611.9
12.5°	597.8	606.3	608.4	612.6	613.4	616.9	621.8	623.3	630.3	632.5	634.6
15°	616.2	623.9	627.5	631.7	632.5	636.7	640.9	642.3	648.7	651.6	653.7
17.5°	628.9	638.1	640.2	645.9	645.9	649.4	653.7	655.1	661.4	663.6	665.0
20°	631.7	640.2	643.1	647.3	648.0	650.1	653.7	655.1	660.8	661.4	663.6
22.5°	621.1	629.6	631.0	635.3	636.0	638.1	640.9	640.2	647.3	646.6	647.3
25°	598.5	606.3	606.3	611.2	610.5	612.6	614.1	613.4	619.7	619.7	619.7
27.5°	565.9	573.0	573.7	577.3	575.1	575.9	577.3	576.6	580.8	580.8	580.8
30°	525.6	531.3	529.2	532.0	530.6	532.0	530.6	529.9	531.3	532.7	532.0
32.5°	475.4	479.7	479.7	480.3	480.3	476.1	474.7	474.7	474.0	473.3	473.3
35°	417.4	420.9	419.5	419.5	418.8	414.6	412.4	411.0	413.1	408.9	411.7
37.5°	358.0	358.7	356.5	355.8	352.3	352.3	348.8	345.9	347.3	346.6	343.8
40°	292.9	295.7	291.5	290.0	292.2	289.3	285.8	282.3	285.1	281.6	283.0
42.5°	229.2	228.5	227.1	227.1	227.1	222.8	222.1	221.4	222.1	219.3	217.2
45°	165.5	163.4	161.3	161.3	158.5	157.0	157.0	154.9	151.4	151.4	147.1
47.5°	111.8	106.8	105.4	104.7	103.3	103.3	101.9	100.4	99.8	96.2	96.2
50°	72.9	67.9	66.5	65.8	66.5	65.1	63.7	62.3	60.8	60.1	58.7
52.5°	43.9	41.7	40.3	39.6	38.2	37.5	36.8	35.4	34.7	34.7	34.0
55°	26.2	24.1	21.2	21.2	21.2	20.5	19.8	19.1	18.4	18.4	17.7
57.5°	16.3	14.9	13.4	12.7	12.7	12.7	12.0	12.0	12.0	12.0	11.3
60°	12.0	10.6	9.9	9.9	9.9	9.2	9.2	9.2	9.2	8.5	8.5
62.5°	9.2	8.5	7.8	7.8	7.1	7.1	7.1	7.1	7.1	7.1	6.4
65°	7.8	6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
67.5°	5.7	5.0	5.0	5.0	5.0	4.2	4.2	4.2	4.2	4.2	4.2
70°	4.2	4.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	3.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	554.6	558.2	554.6	554.6	556.8	556.0	557.5	555.3
5°	570.9	575.9	572.3	571.6	575.1	574.4	575.1	573.7
7.5°	590.7	595.7	592.1	592.1	595.7	595.0	597.1	595.7
10°	613.4	619.0	614.1	614.8	619.7	619.0	619.0	619.0
12.5°	636.7	642.3	639.5	639.5	643.1	643.8	644.5	643.8
15°	655.8	661.4	657.9	657.9	662.9	662.2	662.9	662.2
17.5°	667.1	672.8	668.5	668.5	672.8	672.8	673.5	674.2
20°	664.3	670.6	667.1	665.7	670.6	670.6	670.0	670.0
22.5°	648.0	653.7	650.8	649.4	653.0	651.6	650.8	651.6
25°	619.7	625.4	619.7	619.7	622.5	621.8	622.5	621.8
27.5°	581.5	585.8	580.1	579.4	582.2	580.8	580.1	582.2
30°	530.6	534.8	532.0	529.9	533.4	531.3	529.9	530.6
32.5°	472.6	475.4	474.0	470.5	472.6	471.1	470.5	471.1
35°	408.9	412.4	406.8	406.1	409.6	406.8	405.3	408.9
37.5°	343.1	347.3	342.4	343.1	341.0	341.7	340.3	342.4
40°	280.8	280.2	278.7	278.0	278.7	276.6	278.0	275.9
42.5°	213.6	215.0	214.4	213.6	214.4	211.5	210.1	212.9
45°	148.6	147.9	146.5	145.0	145.0	144.3	144.3	142.2
47.5°	95.5	94.8	92.0	92.7	94.1	92.7	90.5	93.4
50°	58.0	57.3	57.3	56.6	58.0	56.6	55.2	55.2
52.5°	32.5	32.5	31.8	31.8	31.8	31.8	31.1	30.4
55°	17.7	17.0	17.0	17.0	16.3	16.3	16.3	16.3
57.5°	11.3	11.3	11.3	11.3	11.3	11.3	10.6	10.6
60°	8.5	8.5	8.5	8.5	7.8	8.5	7.8	7.8
62.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
65°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
67.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	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



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)