

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251522

Luminaire Tested: **LD4B15D010 EU4B10209024 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251522
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209024 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 997.0 lumens
Efficiency: N/A
Efficacy: 69.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

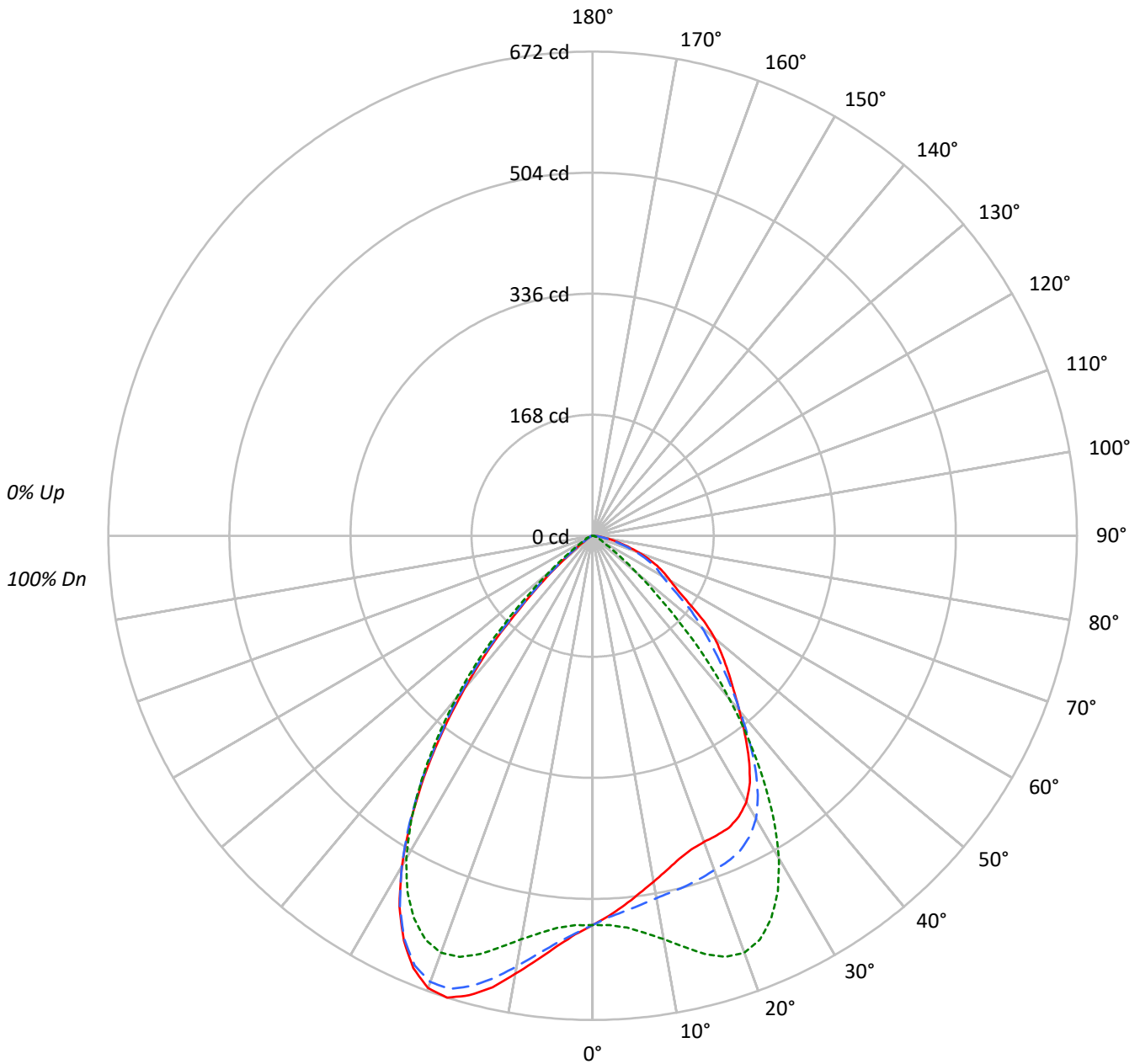
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	52657	52657	52657
5°	50304	53406	55959
10°	48234	56260	61079
15°	46826	60628	66612
20°	46889	63856	69270
25°	48089	63025	66671
30°	48019	58181	59531
35°	44972	49172	48506
40°	40291	37505	34999
45°	36552	23816	19544
50°	33583	12084	8339
55°	27560	5386	2753
60°	24189	3021	1520
65°	22761	2283	1130
70°	19490	1795	997
75°	14874	1318	791
80°	10664	786	393
85°	7939	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.5	5.3
10°-20°	163.6	16.4
20°-30°	253.1	25.4
30°-40°	249.3	25.0
40°-50°	153.1	15.4
50°-60°	68.1	6.8
60°-70°	38.0	3.8
70°-80°	16.4	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°	469.1	47.1
0°-40°	718.4	72.1
0°-60°	939.6	94.2
0°-90°	997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	997.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	540	540	540	540	540	
5°	514	523	546	567	572	48
15°	464	503	601	647	660	132
25°	447	483	586	618	620	205
35°	378	394	413	412	408	235
45°	265	252	173	151	142	205
55°	162	147	32	18	16	149
65°	99	89	10	6	5	97
75°	40	34	4	2	2	43
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°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3
2.5°	527.6	527.6	527.6	527.6	529.0	526.9	529.0	529.0	531.1	531.8	529.7
5°	514.2	513.5	514.2	514.2	515.6	514.9	517.0	518.4	521.2	522.6	522.6
7.5°	500.1	500.1	500.1	501.5	503.6	502.9	505.0	507.1	511.4	514.2	516.3
10°	487.4	486.7	488.8	489.5	491.6	491.6	495.1	497.2	502.2	507.8	510.6
12.5°	475.4	474.7	476.1	478.2	481.7	481.7	484.6	488.1	495.1	501.5	506.4
15°	464.1	464.8	466.9	468.3	472.6	472.6	476.1	480.3	488.1	495.8	502.9
17.5°	456.3	457.0	458.5	460.6	464.8	464.8	468.3	473.3	481.7	490.2	498.7
20°	452.1	452.8	454.2	456.3	459.9	460.6	463.4	469.0	476.8	486.0	493.7
22.5°	450.0	451.4	452.8	454.2	457.8	457.8	461.3	465.5	473.3	482.4	489.5
25°	447.2	448.6	449.3	451.4	454.2	454.2	456.3	461.3	468.3	476.1	483.1
27.5°	439.4	440.8	441.5	443.6	446.5	445.8	448.6	452.1	458.5	465.5	471.2
30°	426.7	427.4	428.8	429.5	431.7	431.7	433.8	437.3	441.5	447.9	453.5
32.5°	406.3	407.7	408.4	409.1	411.2	410.5	411.2	413.3	417.5	423.2	426.7
35°	378.0	380.9	380.9	382.3	383.0	382.3	382.3	385.1	387.2	391.5	393.6
37.5°	347.0	349.1	348.4	349.8	350.5	348.4	349.8	350.5	353.4	355.5	356.2
40°	316.7	317.4	317.4	317.4	317.4	316.7	317.4	318.1	320.2	320.2	318.1
42.5°	289.2	289.9	289.9	288.5	289.9	289.2	289.2	289.2	289.2	286.4	284.2
45°	265.2	265.9	265.9	265.2	265.2	263.8	263.1	262.4	260.3	256.7	251.8
47.5°	242.6	244.0	244.7	243.3	242.6	241.2	241.2	237.0	234.2	229.9	222.9
50°	221.5	222.9	222.9	221.5	221.5	219.4	217.2	215.8	211.6	206.7	198.2
52.5°	194.7	196.8	196.8	196.1	196.1	193.3	192.6	189.7	186.2	180.6	173.5
55°	162.2	165.0	164.3	163.6	162.2	162.2	162.2	160.1	158.0	153.8	146.7
57.5°	138.9	139.7	139.7	138.9	138.9	137.5	137.5	135.4	134.7	130.5	124.8
60°	124.1	124.1	124.8	124.1	123.4	122.7	122.0	120.6	118.5	115.7	111.4
62.5°	112.1	112.9	112.9	112.1	111.4	110.7	110.0	108.6	107.2	105.1	100.9
65°	98.7	100.2	99.4	98.7	98.0	97.3	97.3	95.9	94.5	93.1	88.9
67.5°	83.9	84.6	85.3	83.9	83.9	83.2	83.2	81.8	81.1	78.3	75.5
70°	68.4	69.1	69.1	68.4	68.4	67.7	67.7	67.0	66.3	64.2	61.4
72.5°	53.6	54.3	53.6	52.9	52.9	52.9	52.2	51.5	50.8	49.4	47.3
75°	39.5	39.5	40.2	39.5	38.8	38.8	38.1	38.1	36.7	36.0	33.9
77.5°	28.2	28.9	28.2	28.2	27.5	26.8	26.8	26.1	26.1	25.4	24.0
80°	19.0	19.0	19.7	19.0	18.3	19.0	18.3	17.6	17.6	16.9	15.5
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	6.3	6.3	6.3	5.6
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°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3
2.5°	532.5	533.2	534.6	536.7	536.7	535.3	538.9	538.9	540.3	541.0	543.8
5°	526.9	528.3	531.1	534.6	535.3	534.6	539.6	541.7	543.8	545.9	550.1
7.5°	521.9	524.8	529.7	534.6	536.7	536.7	544.5	547.3	551.6	555.8	560.7
10°	519.1	523.3	530.4	538.2	540.3	542.4	551.6	557.2	562.8	568.5	575.5
12.5°	515.6	523.3	532.5	542.4	546.6	549.4	562.1	569.2	576.9	584.0	593.2
15°	514.9	524.0	536.0	548.7	554.4	558.6	572.7	582.6	591.8	600.9	610.1
17.5°	512.1	523.3	538.2	552.3	559.3	565.0	581.2	593.2	603.8	612.9	623.5
20°	508.5	521.2	537.5	553.0	560.7	566.4	584.0	595.3	607.3	615.7	625.6
22.5°	503.6	516.3	532.5	548.0	555.1	560.0	577.7	587.5	598.1	606.6	615.7
25°	495.1	507.1	521.2	533.9	541.0	545.2	560.7	569.9	577.7	586.1	594.6
27.5°	483.1	492.3	504.3	513.5	517.7	521.9	534.6	542.4	549.4	556.5	562.1
30°	462.0	469.0	477.5	485.3	489.5	490.2	502.2	506.4	512.1	517.0	521.2
32.5°	433.8	439.4	444.3	448.6	451.4	452.1	461.3	462.7	468.3	468.3	474.7
35°	397.8	400.6	404.1	404.1	406.3	404.1	410.5	411.9	412.6	413.3	418.3
37.5°	356.9	358.3	360.4	356.2	356.2	354.1	356.2	357.6	354.8	354.8	358.3
40°	318.1	315.3	312.5	308.2	306.1	301.9	301.9	298.3	296.2	294.8	295.5
42.5°	280.7	274.4	268.0	258.9	254.6	250.4	246.2	241.2	239.8	236.3	234.2
45°	244.7	235.6	227.1	212.3	203.8	199.6	190.4	180.6	174.2	172.8	167.2
47.5°	214.4	201.0	186.9	169.3	160.8	153.1	139.7	131.2	122.7	118.5	115.0
50°	187.6	175.6	157.3	138.2	127.7	119.9	105.1	95.2	86.0	79.7	75.5
52.5°	164.3	150.9	134.0	112.1	101.6	93.1	76.9	65.6	57.8	51.5	46.6
55°	138.2	127.7	110.7	90.3	79.7	69.8	55.7	43.7	36.0	31.7	28.2
57.5°	119.2	110.0	93.8	74.1	64.2	55.0	40.9	31.0	24.7	20.5	18.3
60°	106.5	98.0	83.9	64.9	55.7	47.3	33.9	24.7	19.0	15.5	14.1
62.5°	95.9	87.5	74.8	57.1	49.4	40.9	28.9	20.5	15.5	12.7	10.6
65°	83.9	76.2	64.9	49.4	42.3	35.3	24.7	16.9	12.7	9.9	8.5
67.5°	71.2	64.2	54.3	40.9	35.3	29.6	19.7	14.1	10.6	8.5	7.1
70°	57.8	52.2	43.0	33.1	28.2	23.3	16.2	11.3	7.8	6.3	5.6
72.5°	44.4	39.5	33.1	25.4	21.2	17.6	12.0	8.5	6.3	4.9	4.2
75°	31.7	28.2	23.3	18.3	15.5	12.7	9.2	6.3	4.2	3.5	2.8
77.5°	21.9	19.7	16.2	12.7	10.6	9.2	6.3	4.2	3.5	2.8	2.1
80°	14.1	12.7	10.6	7.8	6.3	5.6	3.5	2.8	2.1	1.4	1.4
82.5°	8.5	7.8	6.3	4.2	3.5	2.8	2.1	1.4	1.4	0.7	0.7
85°	4.9	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°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3
2.5°	542.4	545.9	545.2	547.3	546.6	546.6	550.1	548.7	552.3	552.3	553.0
5°	550.1	555.1	555.1	558.6	557.9	559.3	562.8	562.8	567.1	568.5	568.5
7.5°	561.4	567.8	569.2	572.7	573.4	576.2	579.1	579.8	585.4	586.8	587.5
10°	576.9	584.7	586.8	590.3	591.8	594.6	598.1	599.5	606.6	607.3	610.1
12.5°	596.0	604.5	606.6	610.8	611.5	615.0	620.0	621.4	628.4	630.6	632.7
15°	614.3	622.1	625.6	629.8	630.6	634.8	639.0	640.4	646.8	649.6	651.7
17.5°	627.0	636.2	638.3	644.0	644.0	647.5	651.7	653.1	659.5	661.6	663.0
20°	629.8	638.3	641.1	645.4	646.1	648.2	651.7	653.1	658.8	659.5	661.6
22.5°	619.3	627.7	629.1	633.4	634.1	636.2	639.0	638.3	645.4	644.7	645.4
25°	596.7	604.5	604.5	609.4	608.7	610.8	612.2	611.5	617.9	617.9	617.9
27.5°	564.3	571.3	572.0	575.5	573.4	574.1	575.5	574.8	579.1	579.1	579.1
30°	524.0	529.7	527.6	530.4	529.0	530.4	529.0	528.3	529.7	531.1	530.4
32.5°	474.0	478.2	478.2	478.9	478.9	474.7	473.3	473.3	472.6	471.9	471.9
35°	416.1	419.7	418.3	418.3	417.5	413.3	411.2	409.8	411.9	407.7	410.5
37.5°	356.9	357.6	355.5	354.8	351.2	351.2	347.7	344.9	346.3	345.6	342.8
40°	292.0	294.8	290.6	289.2	291.3	288.5	284.9	281.4	284.2	280.7	282.1
42.5°	228.5	227.8	226.4	226.4	226.4	222.2	221.5	220.8	221.5	218.6	216.5
45°	165.0	162.9	160.8	160.8	158.0	156.6	156.6	154.5	150.9	150.9	146.7
47.5°	111.4	106.5	105.1	104.4	103.0	103.0	101.6	100.2	99.4	95.9	95.9
50°	72.6	67.7	66.3	65.6	66.3	64.9	63.5	62.1	60.7	60.0	58.5
52.5°	43.7	41.6	40.2	39.5	38.1	37.4	36.7	35.3	34.6	34.6	33.9
55°	26.1	24.0	21.2	21.2	21.2	20.5	19.7	19.0	18.3	18.3	17.6
57.5°	16.2	14.8	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	6.3
65°	7.8	6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	5.6	4.9	4.9	4.9	4.9	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°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3
2.5°	553.0	556.5	553.0	553.0	555.1	554.4	555.8	553.7
5°	569.2	574.1	570.6	569.9	573.4	572.7	573.4	572.0
7.5°	588.9	593.9	590.3	590.3	593.9	593.2	595.3	593.9
10°	611.5	617.2	612.2	612.9	617.9	617.2	617.2	617.2
12.5°	634.8	640.4	637.6	637.6	641.1	641.8	642.5	641.8
15°	653.8	659.5	655.9	655.9	660.9	660.2	660.9	660.2
17.5°	665.1	670.8	666.5	666.5	670.8	670.8	671.5	672.2
20°	662.3	668.6	665.1	663.7	668.6	668.6	667.9	667.9
22.5°	646.1	651.7	648.9	647.5	651.0	649.6	648.9	649.6
25°	617.9	623.5	617.9	617.9	620.7	620.0	620.7	620.0
27.5°	579.8	584.0	578.4	577.7	580.5	579.1	578.4	580.5
30°	529.0	533.2	530.4	528.3	531.8	529.7	528.3	529.0
32.5°	471.2	474.0	472.6	469.0	471.2	469.7	469.0	469.7
35°	407.7	411.2	405.6	404.9	408.4	405.6	404.1	407.7
37.5°	342.1	346.3	341.4	342.1	340.0	340.7	339.3	341.4
40°	280.0	279.3	277.9	277.2	277.9	275.8	277.2	275.1
42.5°	213.0	214.4	213.7	213.0	213.7	210.9	209.5	212.3
45°	148.1	147.4	146.0	144.6	144.6	143.9	143.9	141.8
47.5°	95.2	94.5	91.7	92.4	93.8	92.4	90.3	93.1
50°	57.8	57.1	57.1	56.4	57.8	56.4	55.0	55.0
52.5°	32.4	32.4	31.7	31.7	31.7	31.7	31.0	30.3
55°	17.6	16.9	16.9	16.9	16.2	16.2	16.2	16.2
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°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
65°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
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



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













(END OF REPORT)