

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: P251507

Luminaire Tested: **LD4B10D010 EU4B10208040 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251507
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: LD4B10D010 EU4B10208040 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1026.0 lumens
Efficiency: N/A
Efficacy: 102.1 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

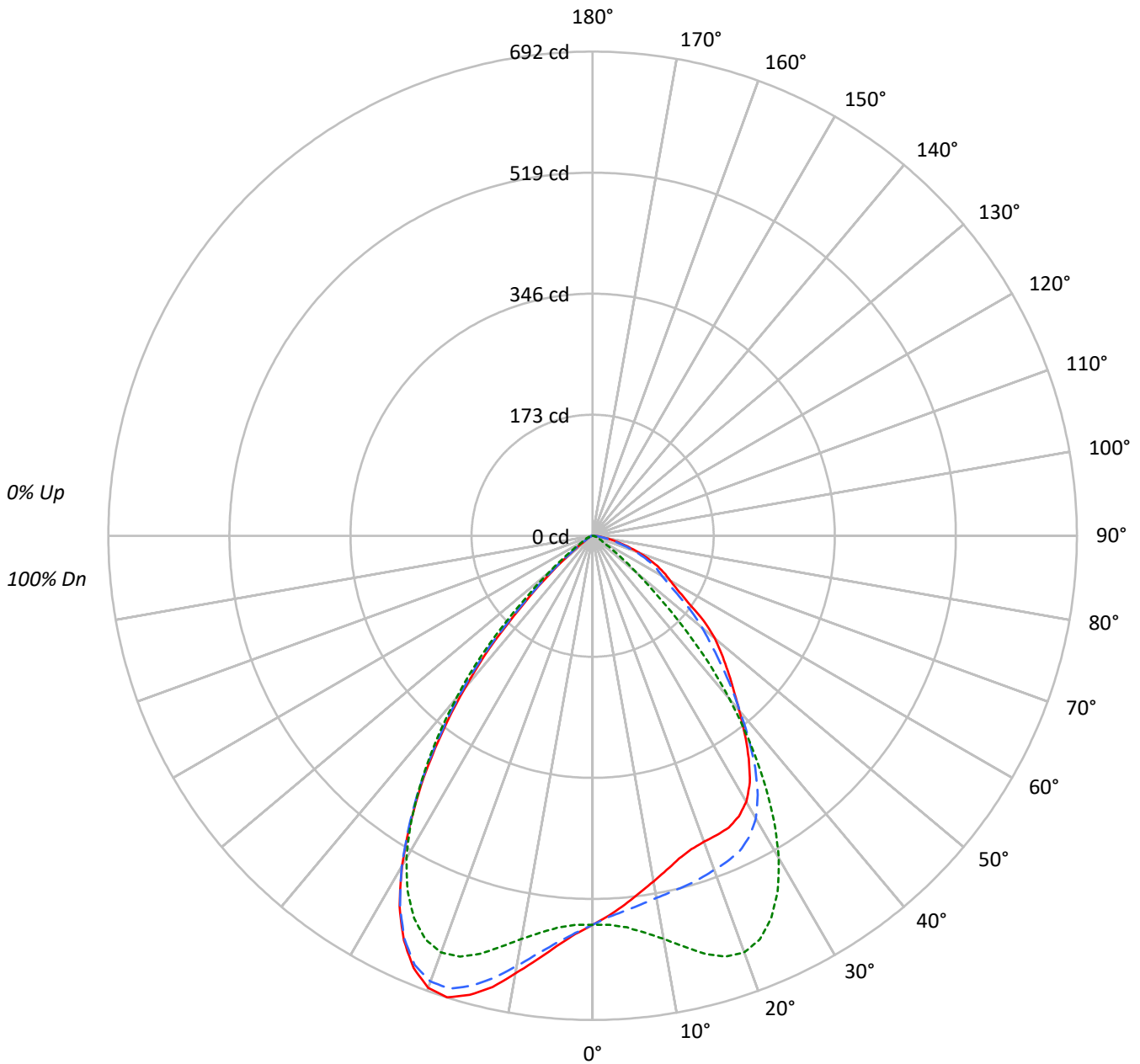
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	54187	54187	54187
5°	51762	54961	57583
10°	49629	57892	62850
15°	48188	62394	68549
20°	48258	65723	71292
25°	49487	64864	68606
30°	49414	59869	61264
35°	46281	50600	49910
40°	41462	38599	36017
45°	37613	24506	20109
50°	34554	12433	8582
55°	28358	5556	2838
60°	24891	3119	1559
65°	23430	2352	1176
70°	20060	1852	1026
75°	15288	1356	828
80°	11000	842	393
85°	8163	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.0	5.3
10°-20°	168.3	16.4
20°-30°	260.4	25.4
30°-40°	256.6	25.0
40°-50°	157.5	15.4
50°-60°	70.1	6.8
60°-70°	39.1	3.8
70°-80°	16.9	1.7
80°-90°	3.0	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°	482.7	47.0
0°-40°	739.3	72.1
0°-60°	966.9	94.2
0°-90°	1026.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1026.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	556	556	556	556	556	
5°	529	538	562	584	589	50
15°	478	518	618	666	679	136
25°	460	497	603	636	638	211
35°	389	405	425	424	420	241
45°	273	259	178	155	146	211
55°	167	151	33	19	17	153
65°	102	92	10	6	5	100
75°	41	35	4	2	2	45
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°	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0
2.5°	542.9	542.9	542.9	542.9	544.4	542.2	544.4	544.4	546.6	547.3	545.1
5°	529.1	528.4	529.1	529.1	530.6	529.9	532.0	533.5	536.4	537.8	537.8
7.5°	514.6	514.6	514.6	516.1	518.2	517.5	519.7	521.9	526.2	529.1	531.3
10°	501.5	500.8	503.0	503.7	505.9	505.9	509.5	511.7	516.8	522.6	525.5
12.5°	489.2	488.5	489.9	492.1	495.7	495.7	498.6	502.3	509.5	516.1	521.1
15°	477.6	478.3	480.5	482.0	486.3	486.3	489.9	494.3	502.3	510.3	517.5
17.5°	469.6	470.3	471.8	474.0	478.3	478.3	482.0	487.0	495.7	504.5	513.2
20°	465.3	466.0	467.4	469.6	473.2	474.0	476.9	482.7	490.7	500.1	508.1
22.5°	463.1	464.5	466.0	467.4	471.1	471.1	474.7	479.0	487.0	496.5	503.7
25°	460.2	461.6	462.4	464.5	467.4	467.4	469.6	474.7	482.0	489.9	497.2
27.5°	452.2	453.6	454.4	456.5	459.5	458.7	461.6	465.3	471.8	479.0	484.9
30°	439.1	439.9	441.3	442.0	444.2	444.2	446.4	450.0	454.4	460.9	466.7
32.5°	418.1	419.5	420.3	421.0	423.2	422.4	423.2	425.3	429.7	435.5	439.1
35°	389.0	391.9	391.9	393.4	394.1	393.4	393.4	396.3	398.5	402.8	405.0
37.5°	357.1	359.3	358.6	360.0	360.7	358.6	360.0	360.7	363.6	365.8	366.5
40°	325.9	326.6	326.6	326.6	326.6	325.9	326.6	327.4	329.5	329.5	327.4
42.5°	297.6	298.3	298.3	296.9	298.3	297.6	297.6	297.6	297.6	294.7	292.5
45°	272.9	273.6	273.6	272.9	272.9	271.5	270.7	270.0	267.8	264.2	259.1
47.5°	249.7	251.1	251.9	250.4	249.7	248.2	248.2	243.9	241.0	236.6	229.4
50°	227.9	229.4	229.4	227.9	227.9	225.7	223.6	222.1	217.7	212.7	204.0
52.5°	200.3	202.5	202.5	201.8	201.8	198.9	198.2	195.2	191.6	185.8	178.6
55°	166.9	169.8	169.1	168.4	166.9	166.9	166.9	164.8	162.6	158.2	151.0
57.5°	143.0	143.7	143.7	143.0	143.0	141.5	141.5	139.4	138.6	134.3	128.5
60°	127.7	127.7	128.5	127.7	127.0	126.3	125.6	124.1	121.9	119.0	114.7
62.5°	115.4	116.1	116.1	115.4	114.7	114.0	113.2	111.8	110.3	108.1	103.8
65°	101.6	103.1	102.3	101.6	100.9	100.2	100.2	98.7	97.3	95.8	91.5
67.5°	86.4	87.1	87.8	86.4	86.4	85.6	85.6	84.2	83.5	80.6	77.7
70°	70.4	71.1	71.1	70.4	70.4	69.7	69.7	69.0	68.2	66.1	63.1
72.5°	55.2	55.9	55.2	54.4	54.4	54.4	53.7	53.0	52.3	50.8	48.6
75°	40.6	40.6	41.4	40.6	39.9	39.9	39.2	39.2	37.7	37.0	34.8
77.5°	29.0	29.8	29.0	29.0	28.3	27.6	27.6	26.9	26.9	26.1	24.7
80°	19.6	19.6	20.3	19.6	18.9	19.6	18.9	18.1	18.1	17.4	16.0
82.5°	12.3	13.1	12.3	12.3	12.3	12.3	12.3	11.6	11.6	10.9	10.2
85°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.5	6.5	6.5	5.8
87.5°	3.6	3.6	2.9	2.9	3.6	3.6	3.6	2.9	2.9	2.9	2.9
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°	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0
2.5°	548.0	548.7	550.2	552.4	552.4	550.9	554.5	554.5	556.0	556.7	559.6
5°	542.2	543.6	546.6	550.2	550.9	550.2	555.3	557.4	559.6	561.8	566.1
7.5°	537.1	540.0	545.1	550.2	552.4	552.4	560.3	563.2	567.6	572.0	577.0
10°	534.2	538.6	545.8	553.8	556.0	558.2	567.6	573.4	579.2	585.0	592.3
12.5°	530.6	538.6	548.0	558.2	562.5	565.4	578.5	585.7	593.7	601.0	610.4
15°	529.9	539.3	551.6	564.7	570.5	574.9	589.4	599.5	609.0	618.4	627.8
17.5°	527.0	538.6	553.8	568.3	575.6	581.4	598.1	610.4	621.3	630.7	641.6
20°	523.3	536.4	553.1	569.1	577.0	582.8	601.0	612.6	624.9	633.7	643.8
22.5°	518.2	531.3	548.0	564.0	571.2	576.3	594.5	604.6	615.5	624.2	633.7
25°	509.5	521.9	536.4	549.5	556.7	561.1	577.0	586.5	594.5	603.2	611.9
27.5°	497.2	506.6	519.0	528.4	532.8	537.1	550.2	558.2	565.4	572.7	578.5
30°	475.4	482.7	491.4	499.4	503.7	504.5	516.8	521.1	527.0	532.0	536.4
32.5°	446.4	452.2	457.3	461.6	464.5	465.3	474.7	476.1	482.0	482.0	488.5
35°	409.4	412.3	415.9	415.9	418.1	415.9	422.4	423.9	424.6	425.3	430.4
37.5°	367.3	368.7	370.9	366.5	366.5	364.4	366.5	368.0	365.1	365.1	368.7
40°	327.4	324.4	321.5	317.2	315.0	310.7	310.7	307.0	304.8	303.4	304.1
42.5°	288.9	282.3	275.8	266.4	262.0	257.7	253.3	248.2	246.8	243.2	241.0
45°	251.9	242.4	233.7	218.5	209.8	205.4	196.0	185.8	179.3	177.8	172.0
47.5°	220.7	206.9	192.3	174.2	165.5	157.5	143.7	135.0	126.3	121.9	118.3
50°	193.1	180.7	161.9	142.3	131.4	123.4	108.1	98.0	88.6	82.0	77.7
52.5°	169.1	155.3	137.9	115.4	104.5	95.8	79.1	67.5	59.5	53.0	47.9
55°	142.3	131.4	114.0	92.9	82.0	71.9	57.3	45.0	37.0	32.7	29.0
57.5°	122.7	113.2	96.5	76.2	66.1	56.6	42.1	31.9	25.4	21.0	18.9
60°	109.6	100.9	86.4	66.8	57.3	48.6	34.8	25.4	19.6	16.0	14.5
62.5°	98.7	90.0	76.9	58.8	50.8	42.1	29.8	21.0	16.0	13.1	10.9
65°	86.4	78.4	66.8	50.8	43.5	36.3	25.4	17.4	13.1	10.2	8.7
67.5°	73.3	66.1	55.9	42.1	36.3	30.5	20.3	14.5	10.9	8.7	7.3
70°	59.5	53.7	44.3	34.1	29.0	24.0	16.7	11.6	8.0	6.5	5.8
72.5°	45.7	40.6	34.1	26.1	21.8	18.1	12.3	8.7	6.5	5.1	4.4
75°	32.7	29.0	24.0	18.9	16.0	13.1	9.4	6.5	4.4	3.6	2.9
77.5°	22.5	20.3	16.7	13.1	10.9	9.4	6.5	4.4	3.6	2.9	2.2
80°	14.5	13.1	10.9	8.0	6.5	5.8	3.6	2.9	2.2	1.5	1.5
82.5°	8.7	8.0	6.5	4.4	3.6	2.9	2.2	1.5	1.5	0.7	0.7
85°	5.1	4.4	2.9	2.2	2.2	1.5	1.5	0.7	0.7	0.0	0.0
87.5°	2.2	1.5	1.5	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°	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0
2.5°	558.2	561.8	561.1	563.2	562.5	562.5	566.1	564.7	568.3	568.3	569.1
5°	566.1	571.2	571.2	574.9	574.1	575.6	579.2	579.2	583.6	585.0	585.0
7.5°	577.8	584.3	585.7	589.4	590.1	593.0	595.9	596.6	602.4	603.9	604.6
10°	593.7	601.7	603.9	607.5	609.0	611.9	615.5	617.0	624.2	624.9	627.8
12.5°	613.3	622.0	624.2	628.6	629.3	632.9	638.0	639.5	646.7	648.9	651.1
15°	632.2	640.2	643.8	648.2	648.9	653.2	657.6	659.1	665.6	668.5	670.7
17.5°	645.3	654.7	656.9	662.7	662.7	666.3	670.7	672.1	678.7	680.8	682.3
20°	648.2	656.9	659.8	664.1	664.9	667.0	670.7	672.1	677.9	678.7	680.8
22.5°	637.3	646.0	647.4	651.8	652.5	654.7	657.6	656.9	664.1	663.4	664.1
25°	614.1	622.0	622.0	627.1	626.4	628.6	630.0	629.3	635.8	635.8	635.8
27.5°	580.7	587.9	588.6	592.3	590.1	590.8	592.3	591.6	595.9	595.9	595.9
30°	539.3	545.1	542.9	545.8	544.4	545.8	544.4	543.6	545.1	546.6	545.8
32.5°	487.8	492.1	492.1	492.8	492.8	488.5	487.0	487.0	486.3	485.6	485.6
35°	428.2	431.9	430.4	430.4	429.7	425.3	423.2	421.7	423.9	419.5	422.4
37.5°	367.3	368.0	365.8	365.1	361.5	361.5	357.8	354.9	356.4	355.7	352.8
40°	300.5	303.4	299.0	297.6	299.8	296.9	293.2	289.6	292.5	288.9	290.3
42.5°	235.2	234.4	233.0	233.0	233.0	228.6	227.9	227.2	227.9	225.0	222.8
45°	169.8	167.7	165.5	165.5	162.6	161.1	161.1	159.0	155.3	155.3	151.0
47.5°	114.7	109.6	108.1	107.4	106.0	106.0	104.5	103.1	102.3	98.7	98.7
50°	74.8	69.7	68.2	67.5	68.2	66.8	65.3	63.9	62.4	61.7	60.2
52.5°	45.0	42.8	41.4	40.6	39.2	38.5	37.7	36.3	35.6	35.6	34.8
55°	26.9	24.7	21.8	21.8	21.8	21.0	20.3	19.6	18.9	18.9	18.1
57.5°	16.7	15.2	13.8	13.1	13.1	13.1	12.3	12.3	12.3	12.3	11.6
60°	12.3	10.9	10.2	10.2	10.2	9.4	9.4	9.4	9.4	8.7	8.7
62.5°	9.4	8.7	8.0	8.0	7.3	7.3	7.3	7.3	7.3	7.3	6.5
65°	8.0	6.5	6.5	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
67.5°	5.8	5.1	5.1	5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4
70°	4.4	4.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	3.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
75°	2.9	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
80°	1.5	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°	556.0	556.0	556.0	556.0	556.0	556.0	556.0	556.0
2.5°	569.1	572.7	569.1	569.1	571.2	570.5	572.0	569.8
5°	585.7	590.8	587.2	586.5	590.1	589.4	590.1	588.6
7.5°	606.1	611.2	607.5	607.5	611.2	610.4	612.6	611.2
10°	629.3	635.1	630.0	630.7	635.8	635.1	635.1	635.1
12.5°	653.2	659.1	656.2	656.2	659.8	660.5	661.2	660.5
15°	672.8	678.7	675.0	675.0	680.1	679.4	680.1	679.4
17.5°	684.5	690.3	685.9	685.9	690.3	690.3	691.0	691.7
20°	681.6	688.1	684.5	683.0	688.1	688.1	687.4	687.4
22.5°	664.9	670.7	667.8	666.3	669.9	668.5	667.8	668.5
25°	635.8	641.6	635.8	635.8	638.7	638.0	638.7	638.0
27.5°	596.6	601.0	595.2	594.5	597.4	595.9	595.2	597.4
30°	544.4	548.7	545.8	543.6	547.3	545.1	543.6	544.4
32.5°	484.9	487.8	486.3	482.7	484.9	483.4	482.7	483.4
35°	419.5	423.2	417.4	416.6	420.3	417.4	415.9	419.5
37.5°	352.0	356.4	351.3	352.0	349.9	350.6	349.1	351.3
40°	288.2	287.4	286.0	285.3	286.0	283.8	285.3	283.1
42.5°	219.2	220.7	219.9	219.2	219.9	217.0	215.6	218.5
45°	152.4	151.7	150.2	148.8	148.8	148.1	148.1	145.9
47.5°	98.0	97.3	94.4	95.1	96.5	95.1	92.9	95.8
50°	59.5	58.8	58.8	58.1	59.5	58.1	56.6	56.6
52.5°	33.4	33.4	32.7	32.7	32.7	32.7	31.9	31.2
55°	18.1	17.4	17.4	17.4	16.7	16.7	16.7	16.7
57.5°	11.6	11.6	11.6	11.6	11.6	11.6	10.9	10.9
60°	8.7	8.7	8.7	8.7	8.0	8.7	8.0	8.0
62.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
65°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
67.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
75°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)