

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: P274323

Luminaire Tested: **LD4B15DE010W2N2050 EU4B1020W2N902050 4LBSW0LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274323
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1808-906-2)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBSW0LI
Description: PORTFOLIO 4" W2N RN DOWNLIGHT, SINGLE WALLWASH WITH SPECULAR FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1142.7 lumens
Efficiency: N/A
Efficacy: 51.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.29 / 1.17
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

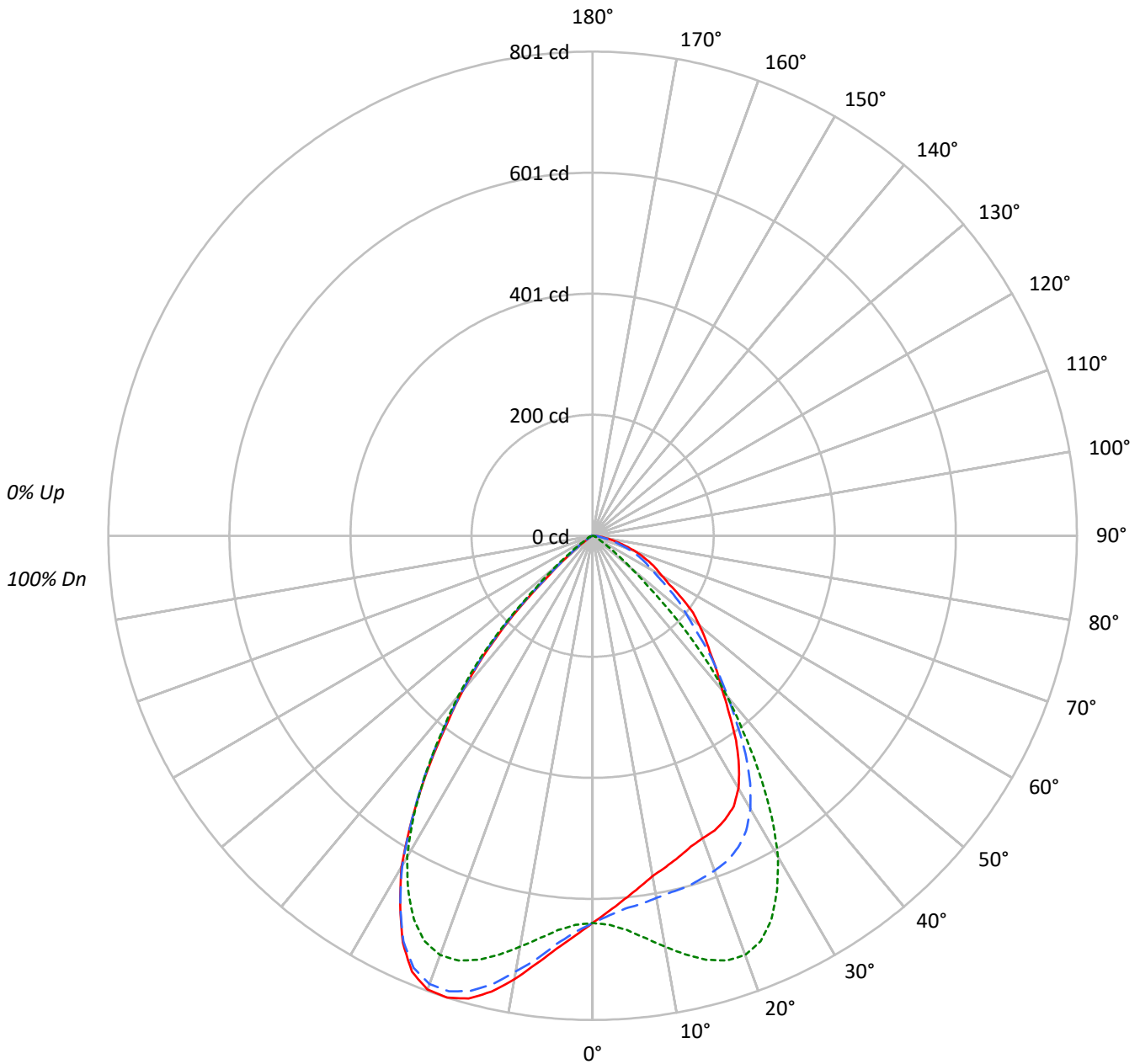
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P274323

CATALOG NUMBER: LD4B15DE010W2N2050 EU4B1020W2N902050 4LBSW0LI

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	109	106	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90																			
2	105	99	94	89	102	97	92	88	94	90	86	91	87	85	88	85	83	81																			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73																			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65																			
5	86	75	68	63	84	74	68	63	72	67	62	71	66	62	69	65	61	59																			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54																			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49																			
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45																			
9	67	55	48	43	65	55	48	43	54	47	43	53	47	43	52	47	43	41																			
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	62422	62422	62422
5°	59060	64059	67082
10°	56566	68323	73736
15°	55513	73261	79970
20°	55217	76540	82825
25°	55713	75262	79865
30°	54298	69006	71145
35°	49196	57405	56977
40°	42480	43841	42480
45°	37999	27676	25553
50°	34948	12251	9006
55°	30686	5250	2617
60°	25709	2320	702
65°	24121	1914	553
70°	21343	1368	684
75°	16568	904	452
80°	12684	673	673
85°	10623	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	5.5
10°-20°	196.0	17.1
20°-30°	299.9	26.2
30°-40°	286.8	25.1
40°-50°	171.3	15.0
50°-60°	69.4	6.1
60°-70°	36.8	3.2
70°-80°	16.4	1.4
80°-90°	3.5	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°	558.5	48.9
0°-40°	845.3	74.0
0°-60°	1086.0	95.0
0°-90°	1142.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1142.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	640	640	640	640	640	
5°	604	619	655	677	686	57
15°	550	601	726	780	793	156
25°	518	569	700	740	743	238
35°	414	441	482	482	479	256
45°	276	270	201	194	185	215
55°	181	154	31	17	15	161
65°	105	88	8	2	2	103
75°	44	34	2	1	1	48
85°	10	7	0	0	0	11
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°	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5
2.5°	621.5	622.7	622.7	623.9	622.7	625.1	623.9	627.4	626.3	627.4	628.6
5°	603.7	603.7	603.7	606.0	606.0	608.4	608.4	610.8	614.4	616.7	619.1
7.5°	587.0	585.8	588.2	588.2	590.6	593.0	595.4	600.1	603.7	608.4	614.4
10°	571.6	571.6	574.0	576.3	577.5	581.1	583.5	588.2	593.0	601.3	608.4
12.5°	560.9	559.7	562.1	564.5	568.0	570.4	572.8	579.9	585.8	595.4	603.7
15°	550.2	550.2	552.6	555.0	558.5	562.1	564.5	572.8	579.9	590.6	601.3
17.5°	539.5	539.5	541.9	545.4	549.0	552.6	555.0	563.3	572.8	584.7	595.4
20°	532.4	531.2	534.7	537.1	541.9	546.6	549.0	557.3	565.6	577.5	589.4
22.5°	527.6	526.4	528.8	531.2	535.9	540.7	543.1	550.2	559.7	569.2	582.3
25°	518.1	518.1	520.5	522.9	527.6	531.2	533.6	540.7	549.0	558.5	569.2
27.5°	505.0	503.9	506.2	507.4	512.2	515.7	518.1	524.1	532.4	538.3	550.2
30°	482.5	482.5	482.5	484.8	487.2	492.0	493.2	499.1	505.0	513.4	521.7
32.5°	450.4	451.6	451.6	453.9	456.3	459.9	461.1	465.8	471.8	476.5	484.8
35°	413.5	411.2	412.4	413.5	417.1	419.5	419.5	425.4	426.6	432.6	440.9
37.5°	370.8	371.9	371.9	373.1	376.7	376.7	380.3	381.5	385.0	388.6	392.1
40°	333.9	335.1	336.3	336.3	338.7	338.7	339.9	342.2	343.4	347.0	347.0
42.5°	304.2	301.8	303.0	301.8	304.2	305.4	306.6	306.6	307.8	307.8	307.8
45°	275.7	275.7	275.7	275.7	275.7	275.7	276.9	278.1	275.7	273.3	269.8
47.5°	253.1	253.1	251.9	251.9	250.7	250.7	249.5	246.0	242.4	237.7	230.5
50°	230.5	230.5	230.5	228.2	228.2	225.8	225.8	222.2	217.5	211.5	203.2
52.5°	209.1	208.0	209.1	206.8	204.4	204.4	203.2	199.6	194.9	187.8	180.6
55°	180.6	180.6	179.4	177.1	175.9	175.9	175.9	172.3	167.6	162.8	154.5
57.5°	150.9	150.9	150.9	148.5	147.4	147.4	146.2	145.0	141.4	136.7	130.7
60°	131.9	131.9	131.9	130.7	128.3	128.3	127.2	124.8	122.4	117.6	112.9
62.5°	118.8	117.6	117.6	117.6	115.3	115.3	115.3	112.9	109.3	105.8	101.0
65°	104.6	104.6	104.6	103.4	102.2	102.2	101.0	99.8	96.3	93.9	87.9
67.5°	89.1	90.3	89.1	87.9	86.7	87.9	86.7	84.4	82.0	79.6	74.9
70°	74.9	73.7	73.7	72.5	72.5	71.3	71.3	68.9	66.5	64.2	60.6
72.5°	58.2	58.2	58.2	57.0	55.9	55.9	54.7	54.7	52.3	48.7	46.3
75°	44.0	44.0	44.0	42.8	42.8	41.6	40.4	40.4	39.2	36.8	34.5
77.5°	32.1	32.1	32.1	30.9	30.9	29.7	29.7	28.5	27.3	26.1	23.8
80°	22.6	22.6	22.6	21.4	21.4	21.4	20.2	20.2	19.0	17.8	15.4
82.5°	15.4	15.4	15.4	15.4	14.3	14.3	14.3	13.1	13.1	11.9	10.7
85°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.3	8.3	7.1	7.1
87.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.6	3.6
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°	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5
2.5°	628.6	632.2	632.2	634.6	635.8	636.9	636.9	640.5	641.7	644.1	644.1
5°	622.7	626.3	631.0	635.8	635.8	639.3	641.7	646.5	650.0	654.8	658.3
7.5°	619.1	625.1	632.2	638.1	641.7	645.3	651.2	657.1	663.1	671.4	676.2
10°	616.7	625.1	634.6	644.1	648.8	653.6	663.1	669.0	679.7	690.4	696.4
12.5°	614.4	625.1	638.1	650.0	656.0	663.1	676.2	684.5	697.6	709.4	718.9
15°	613.2	625.1	640.5	656.0	663.1	670.2	686.9	698.7	711.8	726.1	738.0
17.5°	608.4	625.1	641.7	660.7	667.8	676.2	692.8	707.1	721.3	736.8	747.5
20°	604.9	620.3	640.5	659.5	669.0	676.2	695.2	709.4	723.7	738.0	749.8
22.5°	597.7	612.0	632.2	651.2	659.5	666.7	684.5	699.9	711.8	726.1	734.4
25°	584.7	600.1	616.7	634.6	641.7	647.6	661.9	676.2	686.9	699.9	709.4
27.5°	563.3	576.3	593.0	606.0	614.4	616.7	628.6	641.7	650.0	660.7	666.7
30°	532.4	543.1	555.0	568.0	575.2	575.2	585.8	596.5	602.5	613.2	616.7
32.5°	492.0	500.3	511.0	518.1	521.7	524.1	531.2	538.3	544.3	551.4	553.8
35°	445.6	453.9	457.5	464.6	463.4	465.8	470.6	474.1	480.1	482.5	484.8
37.5°	394.5	399.3	402.8	402.8	405.2	401.7	405.2	405.2	408.8	410.0	415.9
40°	347.0	348.2	345.8	345.8	345.8	342.2	342.2	341.1	341.1	344.6	342.2
42.5°	305.4	300.6	294.7	290.0	286.4	281.6	278.1	276.9	273.3	275.7	273.3
45°	265.0	255.5	244.8	232.9	227.0	221.0	212.7	206.8	203.2	200.8	200.8
47.5°	222.2	209.1	193.7	175.9	166.4	158.0	147.4	135.5	130.7	126.0	121.2
50°	191.3	177.1	159.2	139.0	129.5	120.0	104.6	93.9	85.6	80.8	77.2
52.5°	168.7	152.1	134.3	112.9	102.2	92.7	76.1	65.4	55.9	49.9	46.3
55°	145.0	130.7	112.9	92.7	82.0	71.3	55.9	44.0	35.6	30.9	27.3
57.5°	122.4	110.5	93.9	73.7	63.0	54.7	40.4	29.7	22.6	17.8	15.4
60°	104.6	93.9	79.6	61.8	52.3	44.0	30.9	22.6	15.4	11.9	9.5
62.5°	93.9	83.2	68.9	53.5	46.3	39.2	26.1	19.0	13.1	9.5	7.1
65°	82.0	71.3	59.4	45.2	39.2	33.3	22.6	15.4	10.7	8.3	5.9
67.5°	67.7	59.4	48.7	38.0	32.1	27.3	19.0	13.1	8.3	7.1	4.8
70°	54.7	47.5	39.2	29.7	25.0	21.4	14.3	9.5	7.1	4.8	3.6
72.5°	41.6	35.6	29.7	22.6	19.0	16.6	10.7	7.1	5.9	3.6	2.4
75°	30.9	26.1	20.2	15.4	14.3	11.9	8.3	5.9	3.6	2.4	2.4
77.5°	21.4	17.8	14.3	10.7	9.5	8.3	5.9	3.6	2.4	2.4	1.2
80°	14.3	11.9	9.5	7.1	5.9	5.9	3.6	2.4	2.4	1.2	1.2
82.5°	9.5	7.1	5.9	4.8	3.6	3.6	2.4	1.2	1.2	1.2	1.2
85°	5.9	4.8	3.6	2.4	2.4	1.2	1.2	1.2	0.0	0.0	0.0
87.5°	3.6	2.4	1.2	1.2	1.2	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5
2.5°	646.5	647.6	650.0	650.0	651.2	651.2	653.6	656.0	656.0	657.1	658.3
5°	659.5	664.3	665.5	666.7	670.2	670.2	672.6	676.2	677.3	678.5	678.5
7.5°	680.9	684.5	688.0	690.4	692.8	695.2	699.9	703.5	705.9	705.9	707.1
10°	702.3	708.2	715.4	717.8	720.1	722.5	728.4	729.6	732.0	733.2	735.6
12.5°	727.3	733.2	740.3	742.7	746.3	749.8	754.6	755.8	759.3	761.7	762.9
15°	746.3	753.4	760.5	762.9	766.5	770.0	774.8	776.0	779.5	780.7	784.3
17.5°	757.0	764.1	771.2	774.8	777.2	780.7	787.9	787.9	790.2	791.4	793.8
20°	755.8	765.3	772.4	774.8	778.4	781.9	786.7	787.9	789.1	791.4	792.6
22.5°	743.9	752.2	755.8	759.3	762.9	764.1	770.0	771.2	773.6	773.6	776.0
25°	715.4	721.3	727.3	728.4	733.2	734.4	735.6	735.6	740.3	739.1	741.5
27.5°	673.8	678.5	682.1	683.3	685.7	685.7	688.0	686.9	689.2	688.0	691.6
30°	620.3	625.1	627.4	628.6	628.6	628.6	629.8	628.6	629.8	626.3	626.3
32.5°	556.1	560.9	559.7	560.9	563.3	560.9	560.9	555.0	556.1	557.3	557.3
35°	486.0	487.2	493.2	490.8	489.6	486.0	486.0	484.8	482.5	480.1	478.9
37.5°	414.7	417.1	415.9	413.5	413.5	414.7	411.2	411.2	407.6	406.4	406.4
40°	343.4	344.6	339.9	341.1	342.2	341.1	339.9	339.9	335.1	333.9	333.9
42.5°	273.3	269.8	270.9	272.1	269.8	270.9	272.1	269.8	267.4	265.0	266.2
45°	200.8	194.9	194.9	193.7	194.9	194.9	196.1	194.9	193.7	188.9	191.3
47.5°	121.2	117.6	115.3	115.3	115.3	114.1	111.7	114.1	112.9	110.5	111.7
50°	74.9	70.1	70.1	67.7	66.5	67.7	65.4	64.2	63.0	60.6	61.8
52.5°	44.0	41.6	39.2	39.2	38.0	36.8	36.8	34.5	34.5	34.5	34.5
55°	23.8	21.4	19.0	17.8	17.8	16.6	16.6	16.6	16.6	15.4	15.4
57.5°	13.1	11.9	9.5	8.3	7.1	7.1	5.9	5.9	5.9	4.8	5.9
60°	7.1	5.9	4.8	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
62.5°	5.9	4.8	3.6	3.6	3.6	2.4	2.4	2.4	2.4	2.4	2.4
65°	4.8	3.6	3.6	3.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
67.5°	3.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
72.5°	2.4	2.4	1.2	2.4	1.2	1.2	1.2	1.2	2.4	1.2	1.2
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
82.5°	1.2	0.0	0.0	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	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°	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5
2.5°	657.1	659.5	660.7	659.5	660.7	660.7	660.7	661.9
5°	682.1	683.3	684.5	682.1	684.5	684.5	684.5	685.7
7.5°	708.2	710.6	711.8	711.8	711.8	713.0	713.0	714.2
10°	739.1	739.1	740.3	740.3	741.5	742.7	740.3	745.1
12.5°	765.3	767.7	767.7	767.7	768.9	768.9	768.9	772.4
15°	785.5	786.7	787.9	787.9	787.9	791.4	790.2	792.6
17.5°	796.2	798.6	798.6	797.4	799.7	800.9	799.7	800.9
20°	793.8	796.2	795.0	795.0	796.2	797.4	796.2	798.6
22.5°	777.2	777.2	777.2	774.8	778.4	778.4	776.0	780.7
25°	740.3	742.7	741.5	739.1	739.1	740.3	738.0	742.7
27.5°	691.6	691.6	689.2	689.2	686.9	688.0	689.2	689.2
30°	628.6	627.4	627.4	625.1	627.4	626.3	626.3	632.2
32.5°	553.8	555.0	553.8	552.6	555.0	555.0	555.0	556.1
35°	482.5	481.3	478.9	477.7	480.1	476.5	477.7	478.9
37.5°	405.2	402.8	402.8	400.5	402.8	400.5	399.3	400.5
40°	333.9	332.7	332.7	331.5	331.5	332.7	330.4	333.9
42.5°	263.8	261.4	262.6	262.6	260.2	260.2	260.2	261.4
45°	192.5	190.1	191.3	190.1	187.8	186.6	186.6	185.4
47.5°	109.3	109.3	106.9	109.3	109.3	108.1	105.8	103.4
50°	61.8	61.8	60.6	60.6	60.6	59.4	59.4	59.4
52.5°	33.3	33.3	33.3	33.3	32.1	33.3	33.3	33.3
55°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
57.5°	4.8	5.9	5.9	4.8	5.9	4.8	5.9	4.8
60°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
62.5°	3.6	2.4	3.6	3.6	2.4	3.6	3.6	3.6
65°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
72.5°	2.4	1.2	2.4	2.4	2.4	2.4	2.4	1.2
75°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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)