

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: P251519

Luminaire Tested: **LD4B15D010 EU4B10208035 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251519
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 EU4B10208035 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1414.0 lumens
Efficiency: N/A
Efficacy: 98.3 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

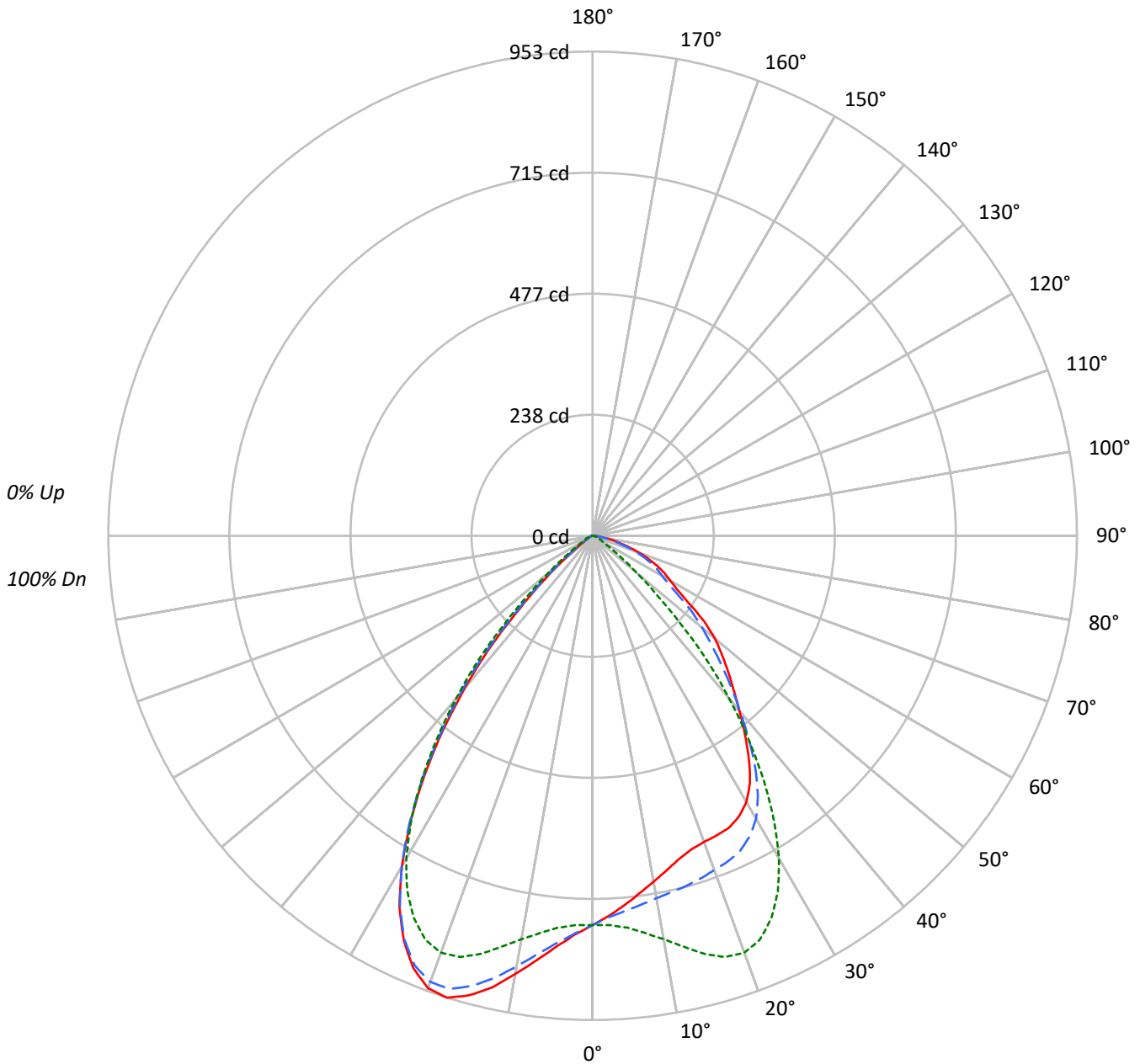
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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°	74672	74672	74672
5°	71338	75740	79370
10°	68402	79793	86621
15°	66410	85994	94469
20°	66501	90572	98247
25°	68197	89392	94554
30°	68106	82511	84424
35°	63794	69743	68791
40°	57136	53192	49629
45°	51837	33781	27717
50°	47623	17133	11826
55°	39097	7646	3908
60°	34325	4288	2144
65°	32285	3228	1614
70°	27640	2565	1425
75°	21087	1883	1130
80°	15153	1122	561
85°	11182	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.4	5.3
10°-20°	232.0	16.4
20°-30°	358.9	25.4
30°-40°	353.6	25.0
40°-50°	217.1	15.4
50°-60°	96.5	6.8
60°-70°	53.9	3.8
70°-80°	23.3	1.7
80°-90°	4.2	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°	665.3	47.1
0°-40°	1018.9	72.1
0°-60°	1332.6	94.2
0°-90°	1414.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1414.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	766	766	766	766	766	
5°	729	741	774	804	811	68
15°	658	713	852	917	936	187
25°	634	685	831	876	879	291
35°	536	558	586	584	578	333
45°	376	357	245	214	201	291
55°	230	208	45	26	23	211
65°	140	126	14	8	7	137
75°	56	48	5	3	3	62
85°	10	8	0	0	0	12
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°	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2
2.5°	748.2	748.2	748.2	748.2	750.2	747.2	750.2	750.2	753.2	754.2	751.2
5°	729.2	728.2	729.2	729.2	731.2	730.2	733.2	735.2	739.2	741.2	741.2
7.5°	709.2	709.2	709.2	711.2	714.2	713.2	716.2	719.2	725.2	729.2	732.2
10°	691.2	690.2	693.2	694.2	697.2	697.2	702.2	705.2	712.2	720.2	724.2
12.5°	674.2	673.2	675.2	678.2	683.2	683.2	687.2	692.2	702.2	711.2	718.2
15°	658.2	659.2	662.2	664.2	670.2	670.2	675.2	681.2	692.2	703.2	713.2
17.5°	647.2	648.2	650.2	653.2	659.2	659.2	664.2	671.2	683.2	695.2	707.2
20°	641.2	642.2	644.2	647.2	652.2	653.2	657.2	665.2	676.2	689.2	700.2
22.5°	638.2	640.2	642.2	644.2	649.2	649.2	654.2	660.2	671.2	684.2	694.2
25°	634.2	636.2	637.2	640.2	644.2	644.2	647.2	654.2	664.2	675.2	685.2
27.5°	623.2	625.2	626.2	629.2	633.2	632.2	636.2	641.2	650.2	660.2	668.2
30°	605.2	606.2	608.2	609.2	612.2	612.2	615.2	620.2	626.2	635.2	643.2
32.5°	576.2	578.2	579.2	580.2	583.2	582.2	583.2	586.2	592.2	600.2	605.2
35°	536.2	540.2	540.2	542.2	543.2	542.2	542.2	546.2	549.2	555.2	558.2
37.5°	492.2	495.2	494.2	496.2	497.2	494.2	496.2	497.2	501.2	504.2	505.2
40°	449.1	450.1	450.1	450.1	450.1	449.1	450.1	451.1	454.1	454.1	451.1
42.5°	410.1	411.1	411.1	409.1	411.1	410.1	410.1	410.1	410.1	406.1	403.1
45°	376.1	377.1	377.1	376.1	376.1	374.1	373.1	372.1	369.1	364.1	357.1
47.5°	344.1	346.1	347.1	345.1	344.1	342.1	342.1	336.1	332.1	326.1	316.1
50°	314.1	316.1	316.1	314.1	314.1	311.1	308.1	306.1	300.1	293.1	281.1
52.5°	276.1	279.1	279.1	278.1	278.1	274.1	273.1	269.1	264.1	256.1	246.1
55°	230.1	234.1	233.1	232.1	230.1	230.1	230.1	227.1	224.1	218.1	208.1
57.5°	197.1	198.1	198.1	197.1	197.1	195.1	195.1	192.1	191.1	185.1	177.1
60°	176.1	176.1	177.1	176.1	175.1	174.1	173.1	171.1	168.1	164.1	158.1
62.5°	159.1	160.1	160.1	159.1	158.1	157.0	156.0	154.0	152.0	149.0	143.0
65°	140.0	142.0	141.0	140.0	139.0	138.0	138.0	136.0	134.0	132.0	126.0
67.5°	119.0	120.0	121.0	119.0	119.0	118.0	118.0	116.0	115.0	111.0	107.0
70°	97.0	98.0	98.0	97.0	97.0	96.0	96.0	95.0	94.0	91.0	87.0
72.5°	76.0	77.0	76.0	75.0	75.0	75.0	74.0	73.0	72.0	70.0	67.0
75°	56.0	56.0	57.0	56.0	55.0	55.0	54.0	54.0	52.0	51.0	48.0
77.5°	40.0	41.0	40.0	40.0	39.0	38.0	38.0	37.0	37.0	36.0	34.0
80°	27.0	27.0	28.0	27.0	26.0	27.0	26.0	25.0	25.0	24.0	22.0
82.5°	17.0	18.0	17.0	17.0	17.0	17.0	17.0	16.0	16.0	15.0	14.0
85°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	8.0
87.5°	5.0	5.0	4.0	4.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2
2.5°	755.2	756.2	758.2	761.2	761.2	759.2	764.2	764.2	766.2	767.2	771.2
5°	747.2	749.2	753.2	758.2	759.2	758.2	765.2	768.2	771.2	774.2	780.2
7.5°	740.2	744.2	751.2	758.2	761.2	761.2	772.2	776.2	782.2	788.3	795.3
10°	736.2	742.2	752.2	763.2	766.2	769.2	782.2	790.3	798.3	806.3	816.3
12.5°	731.2	742.2	755.2	769.2	775.2	779.2	797.3	807.3	818.3	828.3	841.3
15°	730.2	743.2	760.2	778.2	786.2	792.3	812.3	826.3	839.3	852.3	865.3
17.5°	726.2	742.2	763.2	783.2	793.3	801.3	824.3	841.3	856.3	869.3	884.3
20°	721.2	739.2	762.2	784.2	795.3	803.3	828.3	844.3	861.3	873.3	887.3
22.5°	714.2	732.2	755.2	777.2	787.2	794.3	819.3	833.3	848.3	860.3	873.3
25°	702.2	719.2	739.2	757.2	767.2	773.2	795.3	808.3	819.3	831.3	843.3
27.5°	685.2	698.2	715.2	728.2	734.2	740.2	758.2	769.2	779.2	789.3	797.3
30°	655.2	665.2	677.2	688.2	694.2	695.2	712.2	718.2	726.2	733.2	739.2
32.5°	615.2	623.2	630.2	636.2	640.2	641.2	654.2	656.2	664.2	664.2	673.2
35°	564.2	568.2	573.2	573.2	576.2	573.2	582.2	584.2	585.2	586.2	593.2
37.5°	506.2	508.2	511.2	505.2	505.2	502.2	505.2	507.2	503.2	503.2	508.2
40°	451.1	447.1	443.1	437.1	434.1	428.1	428.1	423.1	420.1	418.1	419.1
42.5°	398.1	389.1	380.1	367.1	361.1	355.1	349.1	342.1	340.1	335.1	332.1
45°	347.1	334.1	322.1	301.1	289.1	283.1	270.1	256.1	247.1	245.1	237.1
47.5°	304.1	285.1	265.1	240.1	228.1	217.1	198.1	186.1	174.1	168.1	163.1
50°	266.1	249.1	223.1	196.1	181.1	170.1	149.0	135.0	122.0	113.0	107.0
52.5°	233.1	214.1	190.1	159.1	144.0	132.0	109.0	93.0	82.0	73.0	66.0
55°	196.1	181.1	157.0	128.0	113.0	99.0	79.0	62.0	51.0	45.0	40.0
57.5°	169.1	156.0	133.0	105.0	91.0	78.0	58.0	44.0	35.0	29.0	26.0
60°	151.0	139.0	119.0	92.0	79.0	67.0	48.0	35.0	27.0	22.0	20.0
62.5°	136.0	124.0	106.0	81.0	70.0	58.0	41.0	29.0	22.0	18.0	15.0
65°	119.0	108.0	92.0	70.0	60.0	50.0	35.0	24.0	18.0	14.0	12.0
67.5°	101.0	91.0	77.0	58.0	50.0	42.0	28.0	20.0	15.0	12.0	10.0
70°	82.0	74.0	61.0	47.0	40.0	33.0	23.0	16.0	11.0	9.0	8.0
72.5°	63.0	56.0	47.0	36.0	30.0	25.0	17.0	12.0	9.0	7.0	6.0
75°	45.0	40.0	33.0	26.0	22.0	18.0	13.0	9.0	6.0	5.0	4.0
77.5°	31.0	28.0	23.0	18.0	15.0	13.0	9.0	6.0	5.0	4.0	3.0
80°	20.0	18.0	15.0	11.0	9.0	8.0	5.0	4.0	3.0	2.0	2.0
82.5°	12.0	11.0	9.0	6.0	5.0	4.0	3.0	2.0	2.0	1.0	1.0
85°	7.0	6.0	4.0	3.0	3.0	2.0	2.0	1.0	1.0	0.0	0.0
87.5°	3.0	2.0	2.0	1.0	1.0	1.0	1.0	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°	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2
2.5°	769.2	774.2	773.2	776.2	775.2	775.2	780.2	778.2	783.2	783.2	784.2
5°	780.2	787.2	787.2	792.3	791.3	793.3	798.3	798.3	804.3	806.3	806.3
7.5°	796.3	805.3	807.3	812.3	813.3	817.3	821.3	822.3	830.3	832.3	833.3
10°	818.3	829.3	832.3	837.3	839.3	843.3	848.3	850.3	860.3	861.3	865.3
12.5°	845.3	857.3	860.3	866.3	867.3	872.3	879.3	881.3	891.3	894.3	897.3
15°	871.3	882.3	887.3	893.3	894.3	900.3	906.3	908.3	917.3	921.3	924.3
17.5°	889.3	902.3	905.3	913.3	913.3	918.3	924.3	926.3	935.3	938.3	940.3
20°	893.3	905.3	909.3	915.3	916.3	919.3	924.3	926.3	934.3	935.3	938.3
22.5°	878.3	890.3	892.3	898.3	899.3	902.3	906.3	905.3	915.3	914.3	915.3
25°	846.3	857.3	857.3	864.3	863.3	866.3	868.3	867.3	876.3	876.3	876.3
27.5°	800.3	810.3	811.3	816.3	813.3	814.3	816.3	815.3	821.3	821.3	821.3
30°	743.2	751.2	748.2	752.2	750.2	752.2	750.2	749.2	751.2	753.2	752.2
32.5°	672.2	678.2	678.2	679.2	679.2	673.2	671.2	671.2	670.2	669.2	669.2
35°	590.2	595.2	593.2	593.2	592.2	586.2	583.2	581.2	584.2	578.2	582.2
37.5°	506.2	507.2	504.2	503.2	498.2	498.2	493.2	489.2	491.2	490.2	486.2
40°	414.1	418.1	412.1	410.1	413.1	409.1	404.1	399.1	403.1	398.1	400.1
42.5°	324.1	323.1	321.1	321.1	321.1	315.1	314.1	313.1	314.1	310.1	307.1
45°	234.1	231.1	228.1	228.1	224.1	222.1	222.1	219.1	214.1	214.1	208.1
47.5°	158.1	151.0	149.0	148.0	146.0	146.0	144.0	142.0	141.0	136.0	136.0
50°	103.0	96.0	94.0	93.0	94.0	92.0	90.0	88.0	86.0	85.0	83.0
52.5°	62.0	59.0	57.0	56.0	54.0	53.0	52.0	50.0	49.0	49.0	48.0
55°	37.0	34.0	30.0	30.0	30.0	29.0	28.0	27.0	26.0	26.0	25.0
57.5°	23.0	21.0	19.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	16.0
60°	17.0	15.0	14.0	14.0	14.0	13.0	13.0	13.0	13.0	12.0	12.0
62.5°	13.0	12.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0
65°	11.0	9.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
67.5°	8.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0
70°	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	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°	766.2	766.2	766.2	766.2	766.2	766.2	766.2	766.2
2.5°	784.2	789.3	784.2	784.2	787.2	786.2	788.3	785.2
5°	807.3	814.3	809.3	808.3	813.3	812.3	813.3	811.3
7.5°	835.3	842.3	837.3	837.3	842.3	841.3	844.3	842.3
10°	867.3	875.3	868.3	869.3	876.3	875.3	875.3	875.3
12.5°	900.3	908.3	904.3	904.3	909.3	910.3	911.3	910.3
15°	927.3	935.3	930.3	930.3	937.3	936.3	937.3	936.3
17.5°	943.3	951.3	945.3	945.3	951.3	951.3	952.3	953.3
20°	939.3	948.3	943.3	941.3	948.3	948.3	947.3	947.3
22.5°	916.3	924.3	920.3	918.3	923.3	921.3	920.3	921.3
25°	876.3	884.3	876.3	876.3	880.3	879.3	880.3	879.3
27.5°	822.3	828.3	820.3	819.3	823.3	821.3	820.3	823.3
30°	750.2	756.2	752.2	749.2	754.2	751.2	749.2	750.2
32.5°	668.2	672.2	670.2	665.2	668.2	666.2	665.2	666.2
35°	578.2	583.2	575.2	574.2	579.2	575.2	573.2	578.2
37.5°	485.2	491.2	484.2	485.2	482.2	483.2	481.2	484.2
40°	397.1	396.1	394.1	393.1	394.1	391.1	393.1	390.1
42.5°	302.1	304.1	303.1	302.1	303.1	299.1	297.1	301.1
45°	210.1	209.1	207.1	205.1	205.1	204.1	204.1	201.1
47.5°	135.0	134.0	130.0	131.0	133.0	131.0	128.0	132.0
50°	82.0	81.0	81.0	80.0	82.0	80.0	78.0	78.0
52.5°	46.0	46.0	45.0	45.0	45.0	45.0	44.0	43.0
55°	25.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
57.5°	16.0	16.0	16.0	16.0	16.0	16.0	15.0	15.0
60°	12.0	12.0	12.0	12.0	11.0	12.0	11.0	11.0
62.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
65°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
67.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
70°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)