

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: P251938

Luminaire Tested: **LD4B30D010 EU4B30509024 4LBDW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-15)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B30D010 EU4B30509024 4LBDW1H
Description: PORTFOLIO 4 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1820.0 lumens
Efficiency: N/A
Efficacy: 65.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

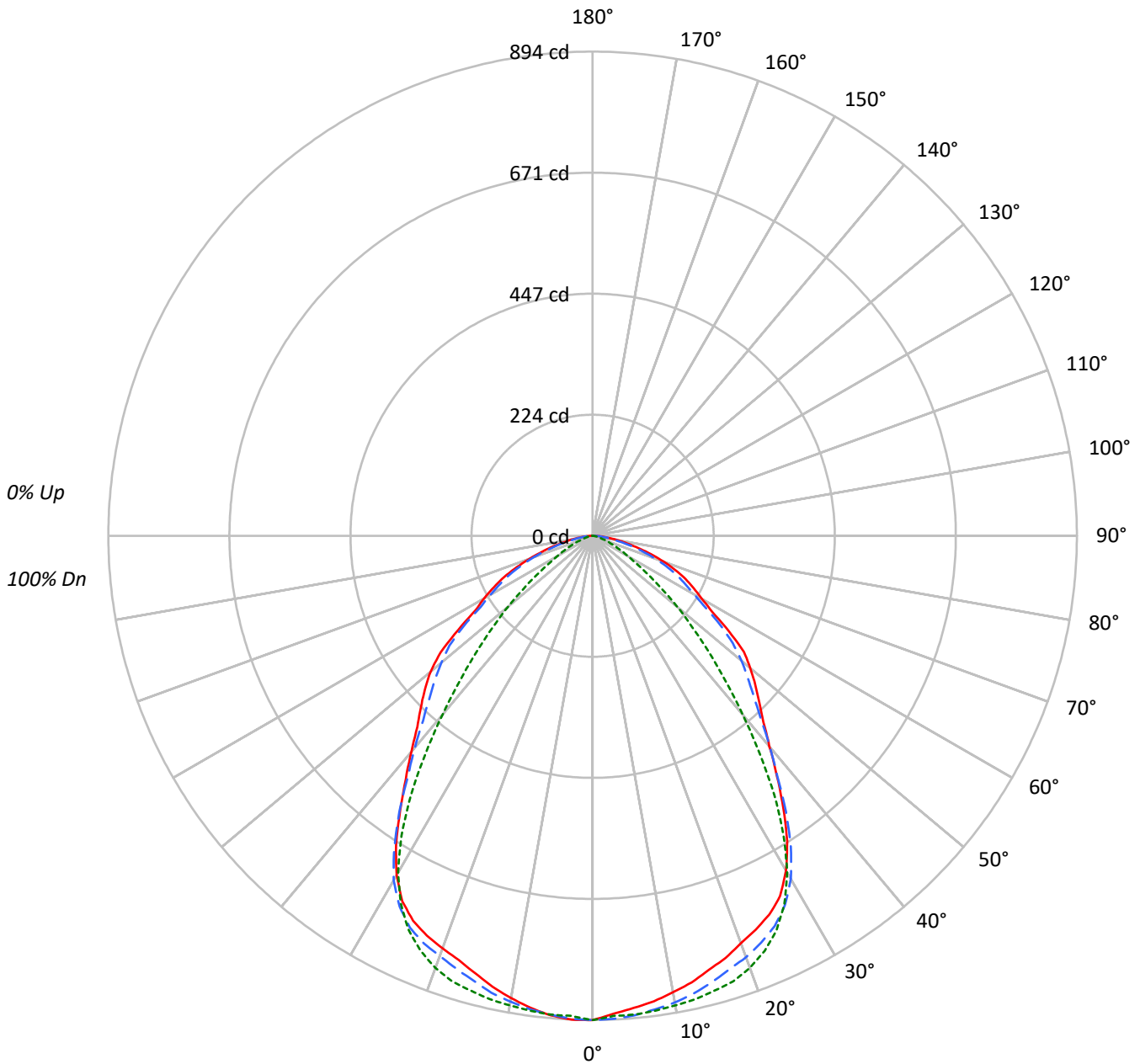
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88			88
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76			76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66			66
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58			58
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51			51
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46			46
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41			41
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37			37
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34			34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31			31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	87157	87157	87157
5°	85602	86815	86952
10°	84691	87136	85780
15°	83703	87729	84400
20°	83043	88042	84049
25°	82994	86403	84327
30°	80350	80823	81442
35°	73003	69564	73657
40°	64591	54782	66168
45°	59927	41720	61815
50°	57569	30869	59237
55°	52129	21273	51433
60°	45318	14482	45045
65°	43792	10469	41555
70°	39608	7067	35277
75°	32647	4669	27978
80°	26266	3087	20822
85°	21581	1565	13866



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.4	4.6
10°-20°	241.4	13.3
20°-30°	364.7	20.0
30°-40°	381.6	21.0
40°-50°	309.1	17.0
50°-60°	224.8	12.4
60°-70°	138.7	7.6
70°-80°	62.7	3.4
80°-90°	12.7	0.7
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°	690.4	37.9
0°-40°	1072.1	58.9
0°-60°	1606.0	88.2
0°-90°	1820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1820.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	894	894	894	894	894	
5°	875	889	887	887	889	83
15°	830	853	870	850	836	234
25°	772	795	804	798	784	354
35°	614	622	585	622	619	382
45°	435	421	303	426	448	338
55°	307	288	125	290	303	274
65°	190	171	45	168	180	186
75°	87	74	12	65	74	94
85°	19	15	1	11	12	22
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°	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3
2.5°	883.3	883.3	891.5	901.2	892.9	884.6	890.1	887.4	897.0	897.0	892.9
5°	875.0	877.8	884.6	892.9	886.0	877.8	884.6	881.9	891.5	891.5	888.8
7.5°	866.8	868.1	876.4	886.0	879.1	870.9	876.4	875.0	883.3	884.6	881.9
10°	855.8	857.1	865.4	875.0	868.1	861.3	866.8	865.4	876.4	876.4	875.0
12.5°	844.7	846.1	854.4	862.6	855.8	848.9	854.4	854.4	865.4	866.8	865.4
15°	829.6	832.4	839.2	847.5	843.4	835.1	840.6	840.6	850.3	853.0	853.0
17.5°	817.2	818.6	825.5	833.7	828.2	821.4	826.9	826.9	836.5	839.2	839.2
20°	800.7	803.5	810.4	818.6	814.5	809.0	813.1	813.1	824.1	826.9	828.2
22.5°	787.0	789.7	795.2	806.2	799.3	795.2	800.7	799.3	811.7	813.1	813.1
25°	771.8	774.6	781.5	788.3	784.2	780.1	784.2	784.2	793.8	795.2	795.2
27.5°	749.8	751.2	758.1	765.0	760.8	755.3	760.8	759.4	769.1	770.5	769.1
30°	714.0	716.8	719.5	729.2	725.1	720.9	726.4	723.7	733.3	733.3	731.9
32.5°	668.6	668.6	674.1	681.0	675.5	672.8	676.9	678.3	685.2	685.2	681.0
35°	613.6	616.4	620.5	624.6	620.5	617.7	621.9	620.5	628.7	626.0	621.9
37.5°	558.6	560.0	564.1	569.6	564.1	560.0	561.3	560.0	566.8	566.8	560.0
40°	507.7	510.4	513.2	518.7	513.2	510.4	511.8	507.7	515.9	513.2	509.0
42.5°	466.4	467.8	471.9	474.7	469.2	467.8	469.2	466.4	470.5	467.8	459.5
45°	434.8	434.8	436.1	440.3	434.8	433.4	433.4	430.6	434.8	429.3	421.0
47.5°	407.2	408.6	410.0	412.7	408.6	404.5	405.9	400.4	403.1	399.0	388.0
50°	379.7	382.5	383.9	386.6	382.5	379.7	381.1	375.6	375.6	368.7	359.1
52.5°	352.2	353.6	352.2	355.0	352.2	348.1	349.5	344.0	344.0	335.7	326.1
55°	306.8	308.2	309.6	312.3	309.6	305.4	308.2	304.1	304.1	298.6	287.5
57.5°	261.4	262.8	264.2	265.5	265.5	262.8	264.2	261.4	260.0	255.9	247.6
60°	232.5	232.5	232.5	233.9	232.5	231.1	231.1	228.4	228.4	222.9	214.6
62.5°	210.5	211.9	211.9	213.3	211.9	210.5	209.1	206.4	205.0	199.5	192.6
65°	189.9	189.9	188.5	191.2	189.9	188.5	188.5	185.7	183.0	177.5	170.6
67.5°	165.1	166.5	165.1	166.5	166.5	165.1	163.7	161.0	159.6	155.5	147.2
70°	139.0	139.0	139.0	140.3	139.0	139.0	140.3	136.2	134.8	129.3	122.4
72.5°	112.8	114.2	114.2	112.8	114.2	111.4	111.4	111.4	110.1	104.6	97.7
75°	86.7	88.1	88.1	89.4	88.1	86.7	86.7	85.3	83.9	79.8	74.3
77.5°	64.7	64.7	66.0	66.0	66.0	64.7	64.7	61.9	61.9	59.2	53.7
80°	46.8	46.8	45.4	46.8	46.8	45.4	45.4	44.0	44.0	41.3	37.1
82.5°	30.3	31.6	31.6	31.6	31.6	30.3	30.3	30.3	28.9	27.5	24.8
85°	19.3	19.3	19.3	19.3	20.6	19.3	20.6	19.3	19.3	16.5	15.1
87.5°	8.3	8.3	8.3	9.6	9.6	8.3	8.3	8.3	8.3	8.3	6.9
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°	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3
2.5°	892.9	894.3	890.1	895.7	891.5	892.9	894.3	892.9	887.4	887.4	902.5
5°	887.4	890.1	886.0	892.9	890.1	890.1	892.9	891.5	886.0	887.4	901.2
7.5°	881.9	886.0	883.3	890.1	886.0	886.0	888.8	888.8	883.3	884.6	897.0
10°	873.6	879.1	877.8	884.6	880.5	880.5	884.6	884.6	879.1	880.5	892.9
12.5°	866.8	872.3	870.9	877.8	875.0	876.4	877.8	880.5	873.6	876.4	887.4
15°	855.8	861.3	861.3	868.1	865.4	868.1	870.9	875.0	869.5	869.5	880.5
17.5°	843.4	850.3	850.3	855.8	855.8	857.1	862.6	866.8	861.3	862.6	872.3
20°	829.6	837.9	837.9	844.7	843.4	846.1	850.3	854.4	848.9	848.9	859.9
22.5°	815.9	822.7	824.1	828.2	828.2	829.6	833.7	836.5	829.6	829.6	840.6
25°	796.6	803.5	804.8	807.6	804.8	804.8	807.6	810.4	803.5	803.5	813.1
27.5°	770.5	777.3	777.3	776.0	773.2	774.6	773.2	774.6	767.7	766.3	776.0
30°	731.9	736.1	736.1	734.7	730.6	730.6	726.4	727.8	718.2	718.2	726.4
32.5°	679.7	683.8	681.0	678.3	672.8	670.0	667.3	665.9	656.3	656.3	665.9
35°	617.7	620.5	616.4	610.9	604.0	599.9	595.7	590.2	583.3	584.7	590.2
37.5°	554.5	554.5	548.9	537.9	532.4	525.6	518.7	518.7	507.7	506.3	510.4
40°	500.8	495.3	485.7	470.5	460.9	454.0	444.4	438.9	430.6	430.6	437.5
42.5°	452.6	441.6	429.3	408.6	399.0	390.7	378.3	372.8	363.2	361.8	366.0
45°	410.0	399.0	381.1	359.1	346.7	337.1	319.2	312.3	304.1	302.7	305.4
47.5°	375.6	363.2	341.2	312.3	299.9	287.5	269.7	260.0	253.1	249.0	253.1
50°	345.3	328.8	305.4	275.2	258.7	247.6	225.6	216.0	206.4	203.6	205.0
52.5°	312.3	295.8	271.0	239.4	224.3	207.7	187.1	173.4	165.1	161.0	165.1
55°	276.5	260.0	235.3	203.6	187.1	172.0	150.0	139.0	129.3	125.2	129.3
57.5°	238.0	222.9	200.9	169.2	154.1	140.3	119.7	108.7	99.1	96.3	99.1
60°	205.0	192.6	170.6	140.3	128.0	112.8	94.9	83.9	75.7	74.3	75.7
62.5°	183.0	169.2	148.6	119.7	107.3	94.9	78.4	67.4	60.5	59.2	60.5
65°	161.0	145.8	126.6	101.8	89.4	79.8	63.3	53.7	46.8	45.4	46.8
67.5°	136.2	122.4	105.9	83.9	74.3	64.7	50.9	41.3	35.8	34.4	35.8
70°	112.8	100.4	83.9	67.4	57.8	50.9	38.5	31.6	26.1	24.8	26.1
72.5°	89.4	78.4	64.7	50.9	45.4	38.5	30.3	23.4	19.3	17.9	19.3
75°	68.8	60.5	49.5	37.1	33.0	28.9	20.6	16.5	13.8	12.4	13.8
77.5°	48.2	42.7	34.4	27.5	23.4	20.6	15.1	11.0	9.6	8.3	9.6
80°	33.0	28.9	23.4	17.9	15.1	12.4	9.6	6.9	5.5	5.5	5.5
82.5°	22.0	17.9	13.8	11.0	9.6	8.3	5.5	4.1	4.1	2.8	2.8
85°	12.4	11.0	8.3	6.9	5.5	4.1	2.8	2.8	1.4	1.4	1.4
87.5°	5.5	4.1	2.8	2.8	1.4	1.4	1.4	1.4	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°	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3
2.5°	898.4	894.3	899.8	894.3	891.5	894.3	891.5	899.8	892.9	887.4	892.9
5°	897.0	891.5	897.0	892.9	888.8	890.1	887.4	895.7	887.4	883.3	886.0
7.5°	894.3	890.1	892.9	888.8	884.6	886.0	883.3	890.1	881.9	877.8	880.5
10°	890.1	886.0	887.4	884.6	880.5	880.5	877.8	883.3	873.6	868.1	870.9
12.5°	884.6	879.1	881.9	877.8	872.3	872.3	869.5	873.6	864.0	858.5	859.9
15°	877.8	872.3	872.3	868.1	862.6	862.6	857.1	861.3	850.3	844.7	844.7
17.5°	869.5	862.6	862.6	858.5	851.6	850.3	846.1	850.3	837.9	832.4	832.4
20°	857.1	851.6	850.3	847.5	840.6	839.2	833.7	835.1	825.5	821.4	820.0
22.5°	840.6	835.1	836.5	832.4	826.9	825.5	820.0	824.1	814.5	810.4	811.7
25°	811.7	809.0	811.7	810.4	806.2	806.2	803.5	806.2	798.0	795.2	796.6
27.5°	778.7	777.3	778.7	778.7	776.0	776.0	776.0	780.1	771.8	770.5	770.5
30°	730.6	730.6	731.9	733.3	733.3	736.1	734.7	740.2	734.7	731.9	734.7
32.5°	667.3	672.8	676.9	676.9	676.9	679.7	682.4	686.5	681.0	682.4	682.4
35°	595.7	599.9	602.6	609.5	605.4	615.0	617.7	623.2	621.9	624.6	623.2
37.5°	515.9	521.4	526.9	536.6	535.2	546.2	551.7	562.7	560.0	565.5	568.2
40°	441.6	449.9	458.1	465.0	470.5	481.5	492.5	506.3	510.4	514.6	515.9
42.5°	370.1	378.3	392.1	401.7	410.0	427.9	443.0	459.5	463.6	471.9	474.7
45°	312.3	319.2	335.7	348.1	355.0	381.1	399.0	419.6	426.5	436.1	440.3
47.5°	258.7	271.0	287.5	302.7	312.3	339.8	363.2	385.2	394.9	405.9	411.4
50°	211.9	225.6	247.6	261.4	275.2	305.4	331.6	355.0	364.6	377.0	382.5
52.5°	173.4	188.5	209.1	224.3	239.4	271.0	298.6	320.6	332.9	341.2	349.5
55°	136.2	152.7	173.4	189.9	202.2	236.6	260.0	282.0	290.3	297.2	301.3
57.5°	105.9	118.3	139.0	152.7	167.8	198.1	221.5	238.0	244.9	253.1	255.9
60°	82.5	94.9	114.2	128.0	141.7	170.6	194.0	210.5	217.4	224.3	228.4
62.5°	66.0	78.4	96.3	108.7	121.1	147.2	167.8	184.4	192.6	199.5	203.6
65°	52.3	63.3	78.4	90.8	100.4	123.8	144.5	159.6	167.8	174.7	178.9
67.5°	41.3	50.9	64.7	72.9	82.5	101.8	119.7	133.5	140.3	148.6	152.7
70°	31.6	38.5	50.9	57.8	64.7	81.2	94.9	108.7	115.6	121.1	123.8
72.5°	23.4	28.9	38.5	44.0	48.2	61.9	72.9	82.5	88.1	93.6	96.3
75°	16.5	20.6	27.5	31.6	34.4	44.0	53.7	60.5	64.7	68.8	72.9
77.5°	11.0	13.8	17.9	20.6	23.4	30.3	35.8	41.3	45.4	49.5	50.9
80°	6.9	9.6	12.4	13.8	15.1	19.3	24.8	27.5	30.3	33.0	34.4
82.5°	4.1	5.5	6.9	8.3	9.6	12.4	15.1	17.9	19.3	22.0	23.4
85°	1.4	2.8	2.8	4.1	4.1	6.9	8.3	9.6	11.0	12.4	13.8
87.5°	0.0	0.0	1.4	1.4	1.4	1.4	2.8	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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	894.3	894.3	894.3	894.3	894.3	894.3	894.3	894.3
2.5°	898.4	894.3	891.5	890.1	899.8	887.4	892.9	894.3
5°	892.9	888.8	886.0	884.6	892.9	881.9	886.0	888.8
7.5°	884.6	881.9	877.8	876.4	884.6	872.3	877.8	879.1
10°	875.0	870.9	868.1	866.8	873.6	861.3	866.8	866.8
12.5°	862.6	859.9	854.4	854.4	859.9	848.9	853.0	853.0
15°	846.1	843.4	837.9	837.9	843.4	832.4	836.5	836.5
17.5°	832.4	829.6	825.5	824.1	829.6	818.6	822.7	821.4
20°	821.4	818.6	813.1	813.1	817.2	806.2	810.4	810.4
22.5°	811.7	810.4	804.8	804.8	810.4	799.3	802.1	799.3
25°	796.6	795.2	789.7	791.1	793.8	782.8	787.0	784.2
27.5°	771.8	771.8	766.3	765.0	769.1	759.4	762.2	760.8
30°	733.3	734.7	727.8	727.8	729.2	720.9	725.1	723.7
32.5°	681.0	682.4	676.9	675.5	679.7	672.8	675.5	675.5
35°	623.2	624.6	620.5	620.5	624.6	620.5	620.5	619.1
37.5°	565.5	568.2	565.5	566.8	569.6	565.5	568.2	566.8
40°	518.7	521.4	517.3	520.1	522.8	518.7	522.8	520.1
42.5°	476.0	480.2	477.4	480.2	482.9	480.2	482.9	478.8
45°	444.4	447.1	445.8	447.1	449.9	448.5	449.9	448.5
47.5°	414.1	419.6	416.9	419.6	423.7	421.0	423.7	419.6
50°	386.6	390.7	389.4	392.1	393.5	392.1	394.9	390.7
52.5°	350.8	355.0	353.6	353.6	356.3	353.6	356.3	353.6
55°	304.1	305.4	305.4	306.8	305.4	304.1	305.4	302.7
57.5°	258.7	261.4	257.3	261.4	260.0	258.7	258.7	255.9
60°	229.8	233.9	231.1	233.9	232.5	232.5	232.5	231.1
62.5°	206.4	209.1	206.4	207.7	207.7	207.7	206.4	205.0
65°	180.2	184.4	181.6	183.0	181.6	180.2	181.6	180.2
67.5°	154.1	155.5	155.5	154.1	154.1	154.1	154.1	151.3
70°	125.2	126.6	125.2	128.0	126.6	125.2	126.6	123.8
72.5°	97.7	99.1	97.7	99.1	97.7	97.7	97.7	97.7
75°	72.9	74.3	74.3	74.3	74.3	74.3	71.5	74.3
77.5°	52.3	52.3	52.3	53.7	52.3	52.3	52.3	52.3
80°	35.8	35.8	35.8	37.1	35.8	37.1	35.8	37.1
82.5°	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
85°	12.4	13.8	13.8	12.4	12.4	12.4	12.4	12.4
87.5°	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)