

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: P251763

Luminaire Tested: **LD4B15D010 EU4B10209730 4LBLWW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251763
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-12)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209730 4LBLWW1H
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 853.0 lumens
Efficiency: N/A
Efficacy: 59.3 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

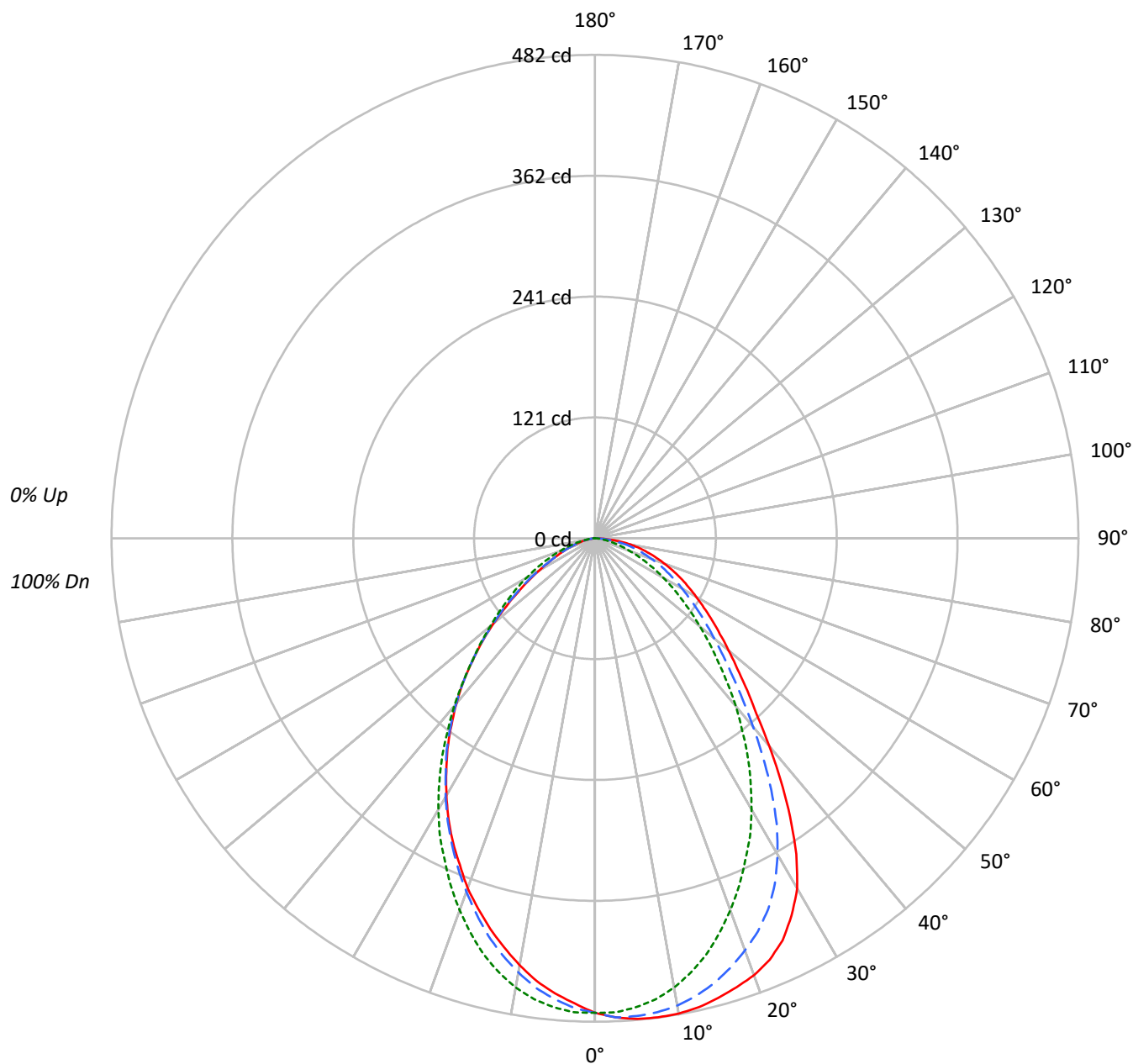
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88		
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	76		
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67		
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52		
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42		
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38		
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35		
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46107	46107	46107
5°	47066	45922	44572
10°	47610	45018	42781
15°	47875	43325	40681
20°	48081	40915	38498
25°	47583	38110	36002
30°	45374	35133	33333
35°	40356	31600	30481
40°	34350	27773	27315
45°	29591	23872	23775
50°	26366	20635	19968
55°	24230	17807	15955
60°	22688	15320	12475
65°	21815	12914	9732
70°	20944	10372	7893
75°	20296	8209	6025
80°	20429	5725	3704
85°	17109	4026	1677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.3	5.2
10°-20°	121.7	14.3
20°-30°	170.3	20.0
30°-40°	175.0	20.5
40°-50°	142.0	16.7
50°-60°	100.0	11.7
60°-70°	61.6	7.2
70°-80°	30.8	3.6
80°-90°	7.3	0.9
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°	336.3	39.4
0°-40°	511.3	59.9
0°-60°	753.4	88.3
0°-90°	853.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	853.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	473	473	473	473	473	
5°	481	478	469	461	456	46
15°	474	459	429	410	403	134
25°	442	408	354	337	335	202
35°	339	306	266	258	256	211
45°	215	194	173	173	172	167
55°	143	125	105	96	94	128
65°	95	79	56	43	42	94
75°	54	42	22	16	16	57
85°	15	10	4	2	2	18
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°	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1
2.5°	478.2	478.9	476.7	478.9	476.0	477.4	478.2	476.7	475.3	478.2	478.2
5°	481.1	481.1	478.9	481.8	478.2	478.9	480.3	478.2	476.0	478.9	478.2
7.5°	481.8	481.8	478.9	481.8	478.2	478.9	479.6	477.4	475.3	477.4	476.7
10°	481.1	480.3	478.2	481.1	477.4	477.4	478.2	476.0	472.3	474.5	473.1
12.5°	478.9	478.9	476.0	478.9	473.8	473.8	474.5	471.6	468.7	468.7	467.2
15°	474.5	474.5	471.6	473.8	469.4	469.4	468.7	465.8	462.2	462.2	459.2
17.5°	469.4	469.4	466.5	468.7	463.6	463.6	462.9	458.5	453.4	452.7	449.1
20°	463.6	463.6	460.0	461.4	455.6	455.6	454.9	449.8	444.0	442.5	437.4
22.5°	454.9	454.9	451.2	452.0	446.1	445.4	444.7	438.9	433.0	430.9	424.3
25°	442.5	441.8	438.9	438.9	433.0	431.6	430.1	424.3	418.5	414.1	408.3
27.5°	424.3	425.0	421.4	422.1	414.8	413.4	412.7	405.4	398.8	394.5	388.6
30°	403.2	401.0	397.4	397.4	391.6	390.8	389.4	382.8	375.5	370.4	363.9
32.5°	373.4	372.6	369.0	369.0	362.4	362.4	359.5	353.0	346.4	343.5	337.0
35°	339.2	338.4	335.5	335.5	329.7	330.4	327.5	322.4	315.9	311.5	306.4
37.5°	304.2	303.5	300.6	301.3	296.2	296.2	294.0	288.9	283.8	281.7	275.1
40°	270.0	269.3	265.6	267.8	263.5	262.0	261.3	257.6	251.8	248.9	245.3
42.5°	238.7	239.4	235.8	237.3	233.6	232.2	231.4	228.5	224.2	221.3	217.6
45°	214.7	213.2	211.8	211.8	208.1	207.4	206.7	203.1	200.1	197.2	193.6
47.5°	192.1	190.7	189.2	190.0	187.0	186.3	184.9	181.9	178.3	176.9	173.2
50°	173.9	173.2	171.0	171.0	168.1	167.4	165.9	163.8	160.1	157.9	155.0
52.5°	157.2	157.2	155.0	154.3	152.1	151.4	150.7	147.7	144.8	141.9	139.0
55°	142.6	141.9	140.5	140.5	137.6	136.8	136.1	133.2	130.3	128.1	125.2
57.5°	128.8	128.8	127.4	127.4	125.2	123.7	123.7	120.8	117.2	115.7	112.1
60°	116.4	116.4	115.0	115.0	112.8	112.8	111.4	108.4	106.3	103.3	100.4
62.5°	104.8	105.5	104.1	103.3	101.2	100.4	100.4	98.3	94.6	92.4	89.5
65°	94.6	93.9	93.2	92.4	90.2	89.5	89.5	86.6	84.4	81.5	79.3
67.5°	83.7	83.7	82.2	82.2	80.8	80.1	78.6	76.4	74.2	72.1	69.9
70°	73.5	73.5	72.8	72.8	70.6	69.9	69.1	67.0	64.8	62.6	59.7
72.5°	64.0	63.3	62.6	62.6	61.1	60.4	59.7	57.5	55.3	53.1	50.9
75°	53.9	53.9	53.1	53.1	51.7	50.9	50.9	49.5	46.6	45.1	42.2
77.5°	45.1	45.1	44.4	44.4	42.9	42.9	42.2	40.0	38.6	36.4	34.9
80°	36.4	35.7	35.7	34.9	33.5	33.5	32.8	32.0	29.8	28.4	26.2
82.5°	25.5	25.5	25.5	24.7	24.0	24.0	23.3	21.8	20.4	19.7	17.5
85°	15.3	15.3	14.6	13.8	14.6	13.8	13.1	12.4	11.6	10.9	10.2
87.5°	6.6	6.6	5.8	5.8	5.8	5.8	5.8	5.1	4.4	4.4	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°	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1
2.5°	473.8	476.0	475.3	474.5	473.1	473.1	473.1	472.3	473.1	473.1	471.6
5°	473.8	475.3	474.5	473.1	471.6	471.6	470.9	469.4	469.4	469.4	466.5
7.5°	471.6	473.1	470.9	469.4	468.0	466.5	466.5	464.3	464.3	463.6	460.7
10°	467.2	468.0	465.1	463.6	461.4	460.7	459.2	456.3	455.6	454.9	452.0
12.5°	460.7	461.4	457.8	454.9	452.0	451.2	449.8	446.1	444.7	443.2	439.6
15°	451.2	451.2	446.9	443.2	440.3	439.6	436.0	432.3	430.9	429.4	424.3
17.5°	440.3	439.6	433.8	430.1	426.5	425.0	421.4	417.0	414.1	412.7	408.3
20°	428.7	426.5	419.9	416.3	411.9	409.7	406.1	400.3	397.4	394.5	390.1
22.5°	414.8	411.9	404.7	399.6	395.2	393.0	387.9	382.8	378.5	375.5	370.4
25°	398.1	394.5	386.5	379.9	376.3	374.1	369.0	363.2	358.8	354.4	350.1
27.5°	378.5	374.1	366.1	359.5	355.9	352.3	348.6	342.1	338.4	334.8	329.7
30°	354.4	349.3	342.1	336.2	331.9	329.0	324.6	318.8	314.4	312.2	307.1
32.5°	328.2	322.4	315.9	310.0	307.9	304.2	300.6	294.8	291.1	288.9	285.3
35°	299.1	294.8	287.5	283.1	279.5	278.0	275.1	269.3	267.8	265.6	261.3
37.5°	268.6	264.9	259.8	256.2	253.3	251.8	248.9	245.3	243.1	240.9	238.7
40°	240.2	237.3	232.9	230.0	226.3	224.2	224.2	219.8	218.3	218.3	216.2
42.5°	212.5	211.1	207.4	203.1	202.3	200.1	199.4	197.2	195.8	195.0	194.3
45°	189.2	187.0	183.4	181.2	179.0	179.0	176.9	174.7	173.9	173.2	172.5
47.5°	168.8	165.9	163.0	160.8	159.4	158.7	156.5	155.0	154.3	154.3	153.6
50°	150.7	148.5	145.6	143.4	141.9	140.5	139.0	137.6	136.8	136.1	136.1
52.5°	135.4	132.5	129.5	127.4	125.2	124.5	123.0	121.5	120.8	120.1	119.4
55°	121.5	119.4	115.7	113.5	111.4	111.4	109.2	107.0	105.5	104.8	104.1
57.5°	108.4	106.3	102.6	100.4	99.0	97.5	96.1	94.6	93.2	91.7	90.2
60°	96.8	94.6	91.0	88.1	87.3	85.9	84.4	81.5	80.1	78.6	77.1
62.5°	85.9	83.0	80.1	77.1	76.4	75.0	72.8	70.6	68.4	67.0	64.8
65°	75.7	73.5	69.9	67.7	65.5	64.8	62.6	59.7	57.5	56.0	53.9
67.5°	66.2	63.3	59.7	57.5	56.0	54.6	52.4	50.2	48.0	45.9	43.7
70°	56.8	54.6	50.9	48.8	47.3	45.9	43.7	40.8	38.6	36.4	34.9
72.5°	48.0	45.1	42.2	40.0	38.6	37.1	34.9	32.8	30.6	29.1	26.9
75°	40.0	37.1	34.9	32.0	31.3	29.8	27.7	25.5	23.3	21.8	20.4
77.5°	32.0	29.8	26.9	25.5	24.0	22.6	21.1	18.9	17.5	15.3	13.8
80°	24.0	21.8	19.7	18.2	16.7	16.0	14.6	13.1	11.6	10.2	9.5
82.5°	16.0	14.6	12.4	11.6	10.9	10.2	8.7	8.0	7.3	6.6	5.8
85°	8.7	8.0	7.3	5.8	5.8	5.1	4.4	4.4	3.6	3.6	2.9
87.5°	3.6	2.9	2.9	2.2	2.2	2.2	1.5	1.5	1.5	0.7	0.7
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°	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1
2.5°	472.3	469.4	469.4	469.4	467.2	468.0	468.7	469.4	468.7	466.5	468.7
5°	467.2	464.3	464.3	462.9	461.4	461.4	461.4	462.2	461.4	459.2	460.0
7.5°	460.7	457.1	456.3	454.9	453.4	452.7	452.7	452.7	452.0	449.1	450.5
10°	450.5	446.9	445.4	444.7	442.5	441.8	441.0	440.3	439.6	436.7	438.1
12.5°	438.1	435.2	432.3	431.6	429.4	427.9	427.2	427.2	425.8	422.8	424.3
15°	423.6	419.2	417.0	415.6	413.4	411.9	410.5	411.2	410.5	407.6	408.3
17.5°	406.1	401.7	399.6	398.8	395.9	394.5	393.7	393.7	393.0	390.1	390.8
20°	387.2	382.8	381.4	379.9	378.5	377.0	376.3	375.5	374.8	371.9	374.1
22.5°	368.3	363.2	361.0	361.0	358.1	357.3	356.6	357.3	356.6	353.7	355.2
25°	348.6	343.5	342.1	339.9	338.4	337.7	337.7	337.7	337.0	335.5	337.0
27.5°	326.8	323.1	321.0	320.2	318.8	318.0	317.3	318.0	318.0	315.9	317.3
30°	304.9	302.0	300.6	299.9	297.7	296.9	297.7	297.7	297.7	295.5	297.7
32.5°	283.1	280.9	280.2	278.0	276.6	276.6	276.6	277.3	276.6	275.1	277.3
35°	261.3	258.4	257.6	256.9	256.9	255.5	256.9	256.2	257.6	255.5	256.9
37.5°	238.0	236.5	235.8	235.8	234.4	235.1	235.1	235.1	236.5	234.4	235.8
40°	216.2	214.7	214.7	214.7	214.0	214.0	214.0	214.7	215.4	214.0	215.4
42.5°	194.3	193.6	193.6	192.9	192.1	192.9	193.6	193.6	194.3	192.9	193.6
45°	173.2	172.5	173.2	172.5	172.5	171.8	172.5	173.2	173.2	172.5	172.5
47.5°	153.6	153.6	152.8	152.8	152.8	152.8	152.8	152.8	152.8	151.4	152.8
50°	136.1	134.6	135.4	134.6	134.6	133.9	133.9	133.2	132.5	131.7	131.7
52.5°	119.4	117.9	117.9	117.2	116.4	116.4	115.7	115.0	114.3	112.8	112.8
55°	103.3	101.9	101.2	100.4	99.7	99.0	98.3	97.5	96.1	95.3	95.3
57.5°	88.8	87.3	85.9	85.9	84.4	83.7	82.2	80.8	80.1	78.6	78.6
60°	75.7	74.2	72.1	71.3	70.6	69.1	67.0	66.2	65.5	64.0	64.8
62.5°	63.3	61.1	59.0	58.2	57.5	56.0	54.6	53.1	52.4	53.1	53.1
65°	51.7	49.5	48.0	46.6	45.9	44.4	43.7	42.9	42.9	42.9	43.7
67.5°	41.5	39.3	37.8	37.1	35.7	34.9	34.9	34.9	34.9	34.9	34.9
70°	32.8	31.3	29.8	28.4	28.4	27.7	27.7	27.7	27.7	27.7	27.7
72.5°	24.7	23.3	22.6	22.6	21.8	21.8	21.8	21.8	21.1	21.1	21.8
75°	18.2	17.5	16.7	16.7	16.7	16.0	16.0	16.0	16.0	16.0	16.0
77.5°	13.1	12.4	12.4	11.6	11.6	11.6	11.6	11.6	11.6	10.9	10.9
80°	8.7	8.0	8.0	8.0	8.0	7.3	7.3	7.3	7.3	7.3	7.3
82.5°	5.1	5.1	5.1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
85°	2.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	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°	473.1	473.1	473.1	473.1	473.1	473.1	473.1	473.1
2.5°	464.3	467.2	468.0	465.8	466.5	465.1	465.8	464.3
5°	456.3	458.5	459.2	457.8	457.8	456.3	457.1	455.6
7.5°	446.1	448.3	449.1	447.6	447.6	446.1	446.1	445.4
10°	434.5	435.2	436.7	434.5	435.2	433.8	433.8	432.3
12.5°	419.9	421.4	422.8	420.7	420.7	419.9	419.9	417.8
15°	404.7	406.1	406.8	405.4	405.4	404.7	403.9	403.2
17.5°	388.6	389.4	390.8	388.6	390.1	388.6	388.6	387.2
20°	370.4	372.6	373.4	371.2	371.9	371.2	371.2	371.2
22.5°	353.0	354.4	355.2	353.7	354.4	353.0	353.7	352.3
25°	334.8	335.5	336.2	334.8	336.2	335.5	334.8	334.8
27.5°	315.9	316.6	317.3	315.9	317.3	316.6	317.3	315.9
30°	295.5	296.9	298.4	296.9	297.7	296.9	296.9	296.2
32.5°	275.1	276.6	278.0	276.6	278.0	276.6	277.3	275.8
35°	256.2	256.9	257.6	256.2	256.9	256.9	256.9	256.2
37.5°	235.1	236.5	236.5	235.8	237.3	236.5	236.5	235.1
40°	214.7	215.4	216.2	214.7	215.4	214.7	215.4	214.7
42.5°	193.6	195.0	195.8	194.3	194.3	194.3	193.6	194.3
45°	171.8	173.2	174.7	172.5	173.2	173.2	173.2	172.5
47.5°	152.1	152.1	152.8	152.1	152.8	151.4	152.8	152.1
50°	131.7	131.7	133.2	131.7	131.7	131.7	131.7	131.7
52.5°	112.1	112.8	112.8	111.4	112.1	111.4	112.1	111.4
55°	93.9	93.9	94.6	93.9	93.9	93.9	93.9	93.9
57.5°	77.9	78.6	78.6	77.9	78.6	77.9	77.9	77.9
60°	64.8	64.8	64.8	64.0	64.8	64.0	64.8	64.0
62.5°	52.4	53.1	53.1	52.4	53.1	52.4	52.4	52.4
65°	42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.2
67.5°	34.2	34.2	34.9	34.2	34.9	34.9	34.9	34.9
70°	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
72.5°	21.1	21.1	21.8	21.1	21.1	21.1	21.1	21.1
75°	16.0	16.0	16.0	16.0	16.0	15.3	15.3	16.0
77.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	11.6
80°	7.3	7.3	7.3	7.3	6.6	6.6	7.3	6.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5
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)