

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: HALO COMMERCIAL

Report Number: P583736

Luminaire Tested: **HC810D010-HM80520835-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583736  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC810D010-HM80520835-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1147.4 lumens  
Efficiency: N/A  
Efficacy: 115.9 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

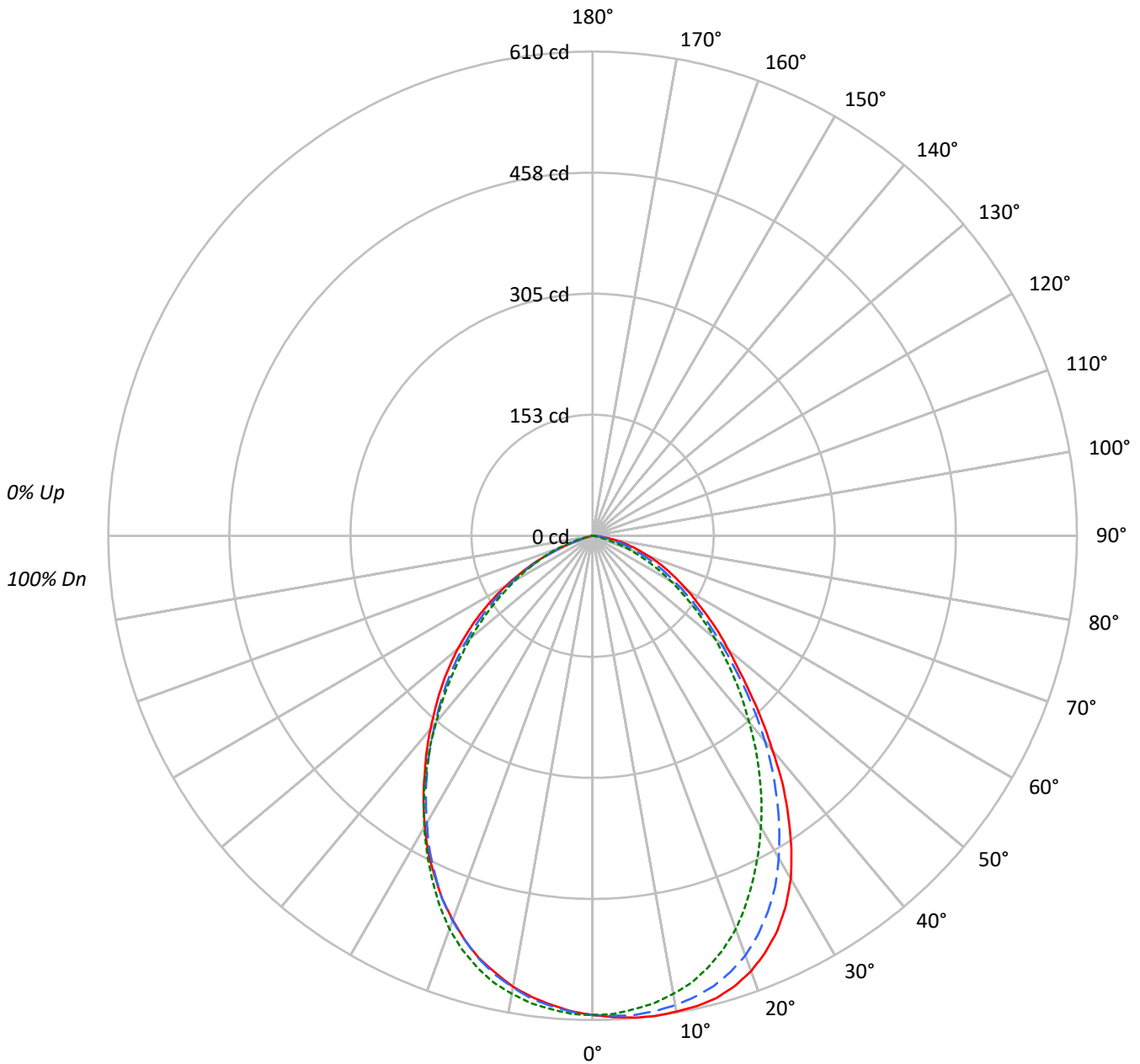
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	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	40	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	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	18619	18619	18619
5°	18863	18535	18365
10°	19056	18349	18070
15°	19247	17964	17603
20°	19151	17300	16903
25°	18703	16264	16042
30°	17768	15094	15040
35°	16172	13774	13894
40°	14177	12330	12785
45°	12232	10968	11740
50°	10712	9628	10631
55°	9494	8279	9354
60°	8548	6963	7752
65°	7698	5589	5939
70°	6762	4075	3273
75°	5755	2121	858
80°	4439	568	142
85°	2866	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.0	5.0
10°-20°	160.1	14.0
20°-30°	227.3	19.8
30°-40°	239.2	20.9
40°-50°	203.5	17.7
50°-60°	147.1	12.8
60°-70°	83.7	7.3
70°-80°	26.4	2.3
80°-90°	3.2	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°	444.4	38.7
0°-40°	683.6	59.6
0°-60°	1034.2	90.1
0°-90°	1147.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1147.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	604	604	604	604	604	
5°	609	606	599	595	593	58
15°	603	588	563	552	551	170
25°	550	522	478	470	472	252
35°	430	405	366	364	369	267
45°	280	270	252	258	269	218
55°	177	164	154	163	174	159
65°	106	91	77	76	81	105
75°	48	37	18	8	7	52
85°	8	5	0	0	0	10
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°	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8
2.5°	607.0	607.7	606.2	606.2	607.7	606.2	607.0	607.0	606.2	606.2	605.3
5°	609.4	608.6	608.6	608.6	609.4	607.7	607.0	607.7	606.2	606.2	606.2
7.5°	610.1	610.1	609.4	608.6	608.6	608.6	607.7	607.0	606.2	604.5	603.8
10°	608.6	608.6	609.4	607.7	607.7	606.2	606.2	604.5	604.5	602.9	600.5
12.5°	607.0	606.2	606.2	604.5	604.5	602.9	602.9	600.5	599.7	597.3	594.9
15°	602.9	602.1	600.5	599.7	598.8	598.1	596.4	595.7	593.3	590.1	587.7
17.5°	594.9	594.0	593.3	591.6	590.1	589.2	588.4	586.0	582.7	580.3	576.4
20°	583.6	582.7	582.7	580.3	579.6	577.1	576.4	573.1	570.7	565.9	562.7
22.5°	568.3	569.0	567.5	565.9	564.2	561.8	560.3	557.0	552.9	548.1	544.0
25°	549.7	550.5	549.0	547.3	544.9	543.3	541.6	536.8	532.8	527.2	522.3
27.5°	526.4	526.4	526.4	524.8	520.7	519.9	518.3	513.5	507.8	502.9	498.1
30°	499.0	498.1	498.1	495.7	494.1	490.9	488.5	484.4	480.4	474.8	469.1
32.5°	465.9	466.7	464.3	462.6	460.2	460.2	457.0	453.8	448.9	443.3	437.6
35°	429.6	430.4	428.9	428.0	423.9	423.2	422.4	418.3	415.2	411.1	404.6
37.5°	392.6	391.7	390.9	390.9	388.5	386.9	385.2	382.8	378.0	374.8	371.5
40°	352.2	352.2	352.2	351.5	350.6	349.1	348.2	346.7	343.4	340.2	337.8
42.5°	316.0	316.0	315.2	314.3	312.8	313.6	311.9	310.4	307.1	304.7	303.0
45°	280.5	280.5	280.5	281.3	279.7	277.3	277.3	275.6	274.1	272.5	270.0
47.5°	249.1	251.5	249.9	249.1	249.9	246.7	246.7	245.1	243.4	241.8	238.6
50°	223.3	223.3	223.3	221.6	220.8	220.8	218.4	216.8	216.0	214.4	211.2
52.5°	199.9	198.3	198.3	197.5	196.6	195.1	195.1	193.4	190.3	188.6	186.2
55°	176.6	176.6	175.7	174.9	174.0	173.3	172.5	170.1	168.5	166.0	163.6
57.5°	155.5	157.2	156.4	154.8	153.1	153.1	151.6	149.9	147.5	145.1	142.7
60°	138.6	137.9	137.9	137.0	135.5	134.6	133.8	131.4	129.0	126.6	124.2
62.5°	120.9	120.9	120.9	119.2	117.7	116.8	116.1	114.4	111.2	108.8	107.2
65°	105.5	104.8	104.0	103.1	102.4	100.7	100.0	98.3	95.9	93.5	91.1
67.5°	90.3	89.4	89.4	88.7	86.3	85.5	85.5	83.1	80.7	78.1	75.7
70°	75.0	75.0	75.0	73.3	72.6	71.8	70.9	69.4	67.0	64.4	62.0
72.5°	62.0	61.3	61.3	60.5	58.1	57.2	56.4	54.8	52.4	50.7	49.2
75°	48.3	48.3	47.6	46.8	45.9	45.2	44.4	42.7	40.3	37.9	37.0
77.5°	37.0	36.3	36.3	35.5	33.9	33.1	33.1	31.5	29.0	27.4	25.8
80°	25.0	25.8	25.0	24.2	23.3	22.6	21.8	20.9	19.4	17.8	16.1
82.5°	15.3	16.1	15.3	15.3	14.5	13.7	13.7	12.1	11.3	10.5	9.6
85°	8.1	8.1	8.1	8.1	7.2	7.2	7.2	6.5	5.6	4.8	4.8
87.5°	2.4	3.2	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6
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°	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8
2.5°	606.2	605.3	604.5	604.5	604.5	604.5	604.5	603.8	602.9	602.9	602.9
5°	604.5	604.5	604.5	603.8	602.9	602.9	601.4	600.5	599.7	598.8	598.1
7.5°	602.9	601.4	600.5	599.7	598.8	598.8	597.3	595.7	595.7	594.0	592.5
10°	598.1	597.3	595.7	594.0	593.3	592.5	590.8	588.4	587.7	586.0	584.4
12.5°	592.5	590.8	589.2	586.0	585.1	584.4	581.2	578.8	577.1	576.4	572.3
15°	585.1	582.0	579.6	575.5	574.7	573.1	570.7	568.3	565.1	562.7	561.0
17.5°	572.3	569.0	565.1	561.0	559.4	559.4	555.3	552.2	548.1	546.5	543.3
20°	557.0	552.9	549.7	544.9	542.5	540.1	537.7	532.8	529.6	527.2	523.1
22.5°	539.2	533.6	529.6	524.8	520.7	518.3	514.2	510.2	506.2	503.8	500.5
25°	516.6	511.8	505.4	500.5	498.1	494.9	490.1	486.1	482.0	478.0	476.4
27.5°	491.7	485.2	479.6	473.9	471.5	469.1	463.5	458.7	455.4	451.4	449.8
30°	464.3	457.8	451.4	446.5	444.1	440.1	436.9	431.3	427.2	423.9	420.0
32.5°	432.8	428.0	422.4	415.2	413.5	410.2	405.4	403.0	398.2	395.8	392.6
35°	398.9	395.8	390.2	384.5	382.1	380.4	376.5	371.5	368.4	365.9	364.3
37.5°	366.7	362.8	357.1	353.0	351.5	349.1	344.1	341.7	338.5	336.9	333.7
40°	332.1	328.0	324.1	321.7	319.3	317.6	314.3	311.9	308.7	306.3	305.5
42.5°	298.2	295.8	292.6	289.3	288.6	286.2	284.5	282.1	279.7	278.9	276.5
45°	267.6	265.2	261.9	258.8	257.9	256.3	255.5	253.1	251.5	251.5	251.5
47.5°	237.0	234.5	231.4	229.7	230.5	227.3	227.3	226.5	224.9	224.9	225.7
50°	209.6	206.4	205.5	204.0	202.3	200.7	201.5	199.1	199.1	200.7	199.9
52.5°	183.8	180.5	179.7	178.1	177.3	177.3	176.6	176.6	175.7	176.6	176.6
55°	160.3	157.9	156.4	154.8	154.0	154.0	154.0	153.1	152.3	154.0	154.8
57.5°	139.4	138.6	137.0	134.6	133.8	132.9	132.2	132.2	132.2	132.2	132.9
60°	120.9	119.2	117.7	115.3	115.3	114.4	113.7	112.9	112.9	112.9	112.9
62.5°	104.8	102.4	100.0	98.3	97.5	96.8	95.9	94.4	94.4	94.4	94.4
65°	88.7	86.3	84.6	83.1	81.4	81.4	79.8	79.0	77.4	76.6	75.0
67.5°	73.3	71.8	70.1	67.7	67.0	66.1	64.4	63.7	61.3	60.5	59.6
70°	59.6	57.2	55.7	54.0	53.2	51.6	50.0	48.3	46.8	45.2	43.5
72.5°	46.8	44.4	42.7	41.1	39.5	39.5	37.0	35.5	33.1	31.5	29.0
75°	34.6	32.2	30.7	28.2	27.4	26.6	24.2	22.6	20.2	17.8	16.1
77.5°	23.3	21.8	20.2	17.8	16.1	16.1	13.7	12.1	10.5	8.1	7.2
80°	14.5	12.9	11.3	9.6	9.6	8.1	7.2	5.6	4.1	3.2	2.4
82.5°	8.1	7.2	6.5	4.8	4.8	4.1	3.2	2.4	1.6	0.8	0.8
85°	4.1	3.2	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.0
87.5°	1.6	0.8	0.8	0.8	0.8	0.8	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°	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8
2.5°	602.1	602.1	601.4	601.4	601.4	600.5	601.4	600.5	600.5	600.5	601.4
5°	598.8	597.3	597.3	596.4	596.4	595.7	596.4	595.7	594.9	594.0	594.9
7.5°	592.5	590.8	590.1	589.2	589.2	589.2	588.4	587.7	588.4	586.0	587.7
10°	583.6	582.7	581.2	580.3	579.6	580.3	579.6	577.9	577.9	577.9	577.1
12.5°	572.3	570.7	569.9	569.0	567.5	567.5	568.3	566.6	566.6	565.1	565.1
15°	558.6	557.0	555.3	555.3	553.8	553.8	552.9	552.9	552.2	551.4	551.4
17.5°	541.6	539.2	537.7	538.5	537.7	536.8	536.8	535.3	534.4	535.3	535.3
20°	521.5	519.9	518.3	519.1	517.5	516.6	517.5	515.1	515.9	515.9	515.9
22.5°	499.0	498.1	495.7	495.7	494.1	493.3	494.1	494.1	494.9	494.1	494.1
25°	473.9	472.4	470.7	470.7	470.0	469.1	470.0	470.7	470.0	470.7	470.7
27.5°	447.4	445.0	445.0	443.3	443.3	444.1	443.3	444.1	445.0	445.0	446.5
30°	418.3	417.6	416.7	415.9	415.9	416.7	416.7	416.7	417.6	419.1	419.1
32.5°	390.9	389.3	387.8	387.8	389.3	388.5	389.3	389.3	390.9	390.9	392.6
35°	361.1	361.1	359.5	360.4	360.4	360.4	360.4	361.9	363.5	364.3	365.9
37.5°	333.7	331.3	332.1	332.1	333.0	332.1	334.5	334.5	336.1	336.1	337.8
40°	303.9	303.9	304.7	303.9	304.7	304.7	306.3	308.0	308.7	310.4	311.1
42.5°	275.6	277.3	275.6	276.5	277.3	278.1	278.9	279.7	283.0	284.5	286.9
45°	249.9	250.7	251.5	252.3	251.5	253.1	253.9	255.5	257.9	258.8	259.5
47.5°	224.9	225.7	226.5	227.3	227.3	228.9	229.7	231.4	232.9	233.8	234.5
50°	200.7	202.3	203.1	203.1	204.0	205.5	207.1	207.1	208.8	211.2	212.0
52.5°	179.0	179.0	180.5	181.4	182.2	182.2	184.6	185.3	186.2	187.8	189.4
55°	154.8	157.2	157.9	157.9	159.6	161.2	162.0	162.9	162.9	166.0	166.0
57.5°	133.8	134.6	136.2	136.2	136.2	138.6	138.6	140.3	141.1	141.8	143.5
60°	112.9	114.4	114.4	115.3	114.4	116.1	116.8	118.5	119.2	120.1	120.9
62.5°	93.5	93.5	94.4	94.4	94.4	94.4	95.9	95.9	97.5	98.3	99.2
65°	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.7	75.7	77.4
67.5°	58.1	57.2	55.7	56.4	55.7	55.7	54.8	54.8	55.7	55.7	57.2
70°	41.9	41.1	39.5	39.5	38.7	37.9	37.0	36.3	35.5	35.5	35.5
72.5°	27.4	25.8	23.3	22.6	22.6	20.9	19.4	18.5	18.5	18.5	18.5
75°	13.7	12.1	10.5	9.6	9.6	8.1	8.9	8.1	8.1	8.1	8.1
77.5°	5.6	4.1	3.2	3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4
80°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	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





TEST NUMBER: P583736

CATALOG NUMBER: HC810D010-HM80520835-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	603.8	603.8	603.8	603.8	603.8	603.8	603.8	603.8
2.5°	600.5	600.5	598.8	599.7	599.7	599.7	599.7	599.7
5°	593.3	594.0	593.3	594.0	594.0	593.3	593.3	593.3
7.5°	586.0	586.8	586.0	586.8	586.8	586.8	586.0	586.0
10°	577.1	577.1	577.1	577.1	577.1	576.4	577.1	577.1
12.5°	565.1	565.1	565.1	565.9	565.9	565.1	565.1	564.2
15°	552.2	550.5	551.4	552.2	551.4	551.4	551.4	551.4
17.5°	534.4	535.3	534.4	534.4	534.4	534.4	535.3	534.4
20°	515.9	515.9	516.6	515.9	515.9	515.9	515.9	515.1
22.5°	494.9	494.1	494.1	494.9	494.9	494.1	494.9	494.9
25°	471.5	472.4	471.5	471.5	472.4	472.4	472.4	471.5
27.5°	446.5	447.4	448.1	447.4	447.4	447.4	448.1	448.9
30°	420.7	422.4	420.7	420.7	422.4	421.5	422.4	422.4
32.5°	393.3	395.8	394.1	395.8	395.8	396.5	395.8	396.5
35°	365.9	368.4	368.4	368.4	369.1	370.0	370.0	369.1
37.5°	340.2	341.0	341.0	342.6	343.4	344.1	344.1	343.4
40°	313.6	315.2	316.0	316.0	316.0	317.6	319.3	317.6
42.5°	287.8	288.6	289.3	289.3	291.0	291.8	292.6	292.6
45°	262.8	264.4	265.2	266.0	266.8	268.4	267.6	269.2
47.5°	237.0	239.4	240.2	241.0	242.6	243.4	244.2	245.1
50°	213.6	215.2	215.2	216.8	219.2	219.2	220.8	221.6
52.5°	190.3	191.0	191.8	192.7	194.2	195.9	195.9	197.5
55°	167.7	168.5	168.5	169.2	170.1	173.3	174.0	174.0
57.5°	144.2	144.2	145.9	146.6	147.5	149.2	149.2	149.2
60°	121.8	122.5	122.5	123.3	124.2	125.7	126.6	125.7
62.5°	99.2	100.0	100.0	100.7	102.4	103.1	102.4	102.4
65°	78.1	79.0	79.0	79.8	81.4	81.4	80.7	81.4
67.5°	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2
70°	36.3	35.5	34.6	35.5	35.5	35.5	34.6	36.3
72.5°	17.8	18.5	18.5	18.5	18.5	18.5	18.5	17.8
75°	8.1	8.1	7.2	7.2	7.2	8.1	8.1	7.2
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)