

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: P583710

Luminaire Tested: **HC810D010-HM80520827-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583710  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC810D010-HM80520827-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1059.1 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

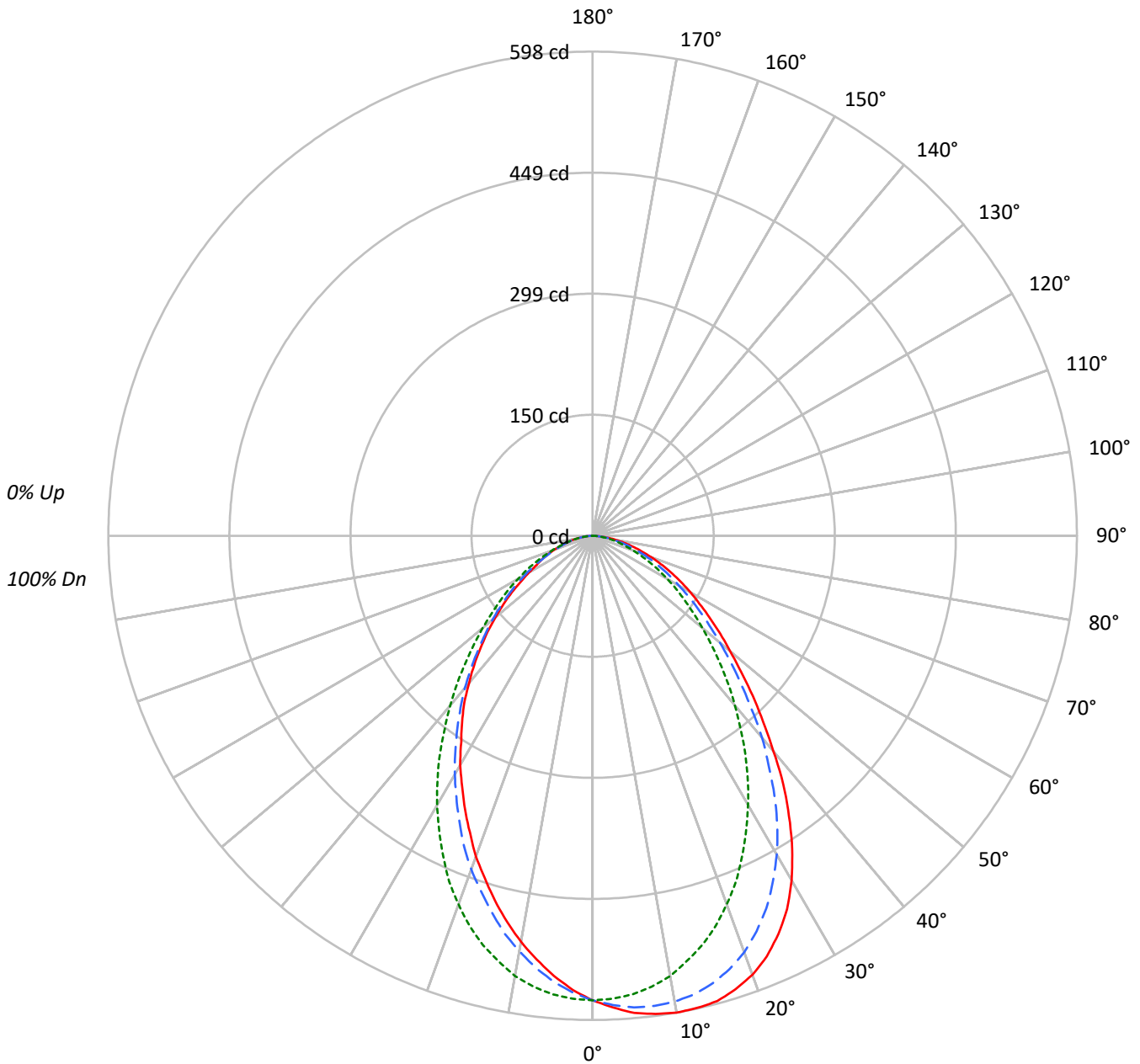
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87								
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51								
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

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

	0°	90°	180°
0°	17694	17694	17694
5°	18316	17594	16895
10°	18725	17287	15947
15°	18992	16703	14889
20°	18934	15892	13825
25°	18465	14862	12691
30°	17497	13669	11647
35°	15920	12370	10582
40°	13980	11001	9560
45°	12193	9677	8521
50°	10612	8482	7508
55°	9462	7451	6532
60°	8597	6531	5569
65°	7727	5684	5064
70°	6879	4842	4562
75°	6029	4087	3896
80°	5114	3303	3463
85°	3856	2477	2760



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.8	5.1
10°-20°	148.1	14.0
20°-30°	205.6	19.4
30°-40°	212.6	20.1
40°-50°	178.0	16.8
50°-60°	129.2	12.2
60°-70°	81.5	7.7
70°-80°	40.4	3.8
80°-90°	10.0	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°	407.4	38.5
0°-40°	620.0	58.5
0°-60°	927.2	87.5
0°-90°	1059.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1059.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	574	574	574	574	574	
5°	592	585	568	553	546	57
15°	595	572	523	481	466	167
25°	543	508	437	389	373	249
35°	423	392	329	291	281	263
45°	280	259	222	200	195	216
55°	176	160	139	127	122	159
65°	106	93	78	68	69	106
75°	51	42	34	33	33	54
85°	11	8	7	8	8	13
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°	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8
2.5°	583.2	583.2	584.1	583.2	583.2	583.2	582.5	582.5	581.6	581.6	580.1
5°	591.7	590.2	591.7	590.2	590.2	590.2	589.5	587.9	587.1	585.6	584.8
7.5°	595.7	594.9	594.9	594.1	594.1	593.3	592.6	591.7	588.6	587.9	585.6
10°	598.0	597.3	597.3	596.4	594.9	594.9	593.3	592.6	588.6	587.1	584.1
12.5°	597.3	597.3	597.3	596.4	594.1	593.3	591.7	589.5	586.3	583.2	580.1
15°	594.9	594.9	593.3	592.6	590.2	588.6	587.9	584.1	580.9	577.0	572.3
17.5°	587.1	587.1	586.3	584.8	582.5	580.9	579.4	575.4	572.3	566.1	561.5
20°	577.0	576.2	575.4	573.1	570.7	570.0	567.7	562.2	558.3	553.6	547.4
22.5°	562.2	561.5	560.6	559.1	555.2	553.6	552.1	548.2	541.1	536.5	528.8
25°	542.7	542.7	541.1	538.9	534.9	533.3	531.0	527.2	520.9	514.0	507.7
27.5°	520.1	519.4	517.0	515.4	512.4	510.0	506.2	501.5	495.2	489.8	482.0
30°	491.4	491.4	489.8	487.4	483.6	482.0	478.9	473.5	467.2	460.2	454.7
32.5°	458.7	458.7	456.3	454.7	452.4	448.5	447.7	441.5	436.1	430.6	424.4
35°	422.9	423.6	422.0	418.9	415.1	415.1	413.5	408.1	401.8	396.3	391.6
37.5°	387.0	384.6	383.9	382.4	380.0	376.8	375.3	373.0	367.6	363.6	356.6
40°	347.3	348.1	346.5	345.0	344.1	341.8	341.0	337.2	333.3	328.6	325.5
42.5°	311.4	311.4	311.4	309.9	308.3	306.0	305.2	302.9	298.2	295.1	290.4
45°	279.6	277.2	277.2	276.5	275.6	274.1	271.8	270.2	267.1	264.8	259.3
47.5°	248.5	249.2	248.5	247.6	245.3	244.5	243.8	240.6	237.5	235.1	231.3
50°	221.2	222.7	221.2	221.2	219.6	218.8	217.2	214.9	212.6	208.7	204.8
52.5°	198.6	198.6	197.7	197.0	194.7	193.2	192.3	191.6	187.6	184.5	181.4
55°	176.0	176.8	176.8	174.4	173.7	172.1	171.3	169.0	167.4	162.8	160.3
57.5°	156.5	155.8	156.5	154.9	153.4	151.8	151.1	149.5	147.1	144.0	141.0
60°	139.4	137.9	137.9	137.0	135.5	134.7	133.2	130.8	128.5	125.4	123.1
62.5°	122.2	121.5	120.7	120.0	118.4	117.6	116.8	114.4	112.1	109.7	107.5
65°	105.9	105.9	105.2	103.6	102.8	102.0	101.2	99.6	96.5	95.0	92.7
67.5°	91.1	90.3	90.3	88.8	87.3	86.4	86.4	84.9	82.6	80.2	78.6
70°	76.3	77.0	76.3	75.5	73.9	73.9	72.4	71.6	68.5	67.8	65.4
72.5°	63.1	63.1	62.3	62.3	60.7	60.0	60.0	58.4	56.9	55.3	53.7
75°	50.6	50.6	50.6	49.9	49.0	47.5	47.5	46.8	45.2	43.6	42.1
77.5°	39.7	38.9	38.9	38.1	37.4	36.5	36.5	35.8	34.3	33.5	32.0
80°	28.8	28.0	28.0	28.0	26.4	27.3	26.4	25.7	24.9	24.2	23.3
82.5°	18.6	19.5	19.5	18.6	17.9	17.9	17.9	17.2	17.2	16.3	15.6
85°	10.9	10.9	10.9	10.9	10.1	10.1	10.1	9.4	9.4	9.4	8.5
87.5°	4.7	4.7	4.7	4.7	4.7	4.7	3.8	3.8	3.8	3.8	3.8
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8
2.5°	580.1	578.5	577.8	577.0	577.0	576.2	575.4	573.8	573.8	572.3	571.6
5°	583.2	580.9	579.4	577.8	577.0	575.4	573.8	571.6	570.7	568.4	566.1
7.5°	584.1	580.1	578.5	575.4	573.8	572.3	569.1	566.9	563.7	561.5	558.3
10°	580.9	577.8	573.8	570.0	569.1	566.9	562.2	559.1	555.2	552.1	547.4
12.5°	576.2	571.6	567.7	563.0	560.6	558.3	553.6	549.0	543.5	538.0	533.3
15°	568.4	563.0	557.5	552.1	549.0	546.7	541.1	535.7	530.3	523.2	518.5
17.5°	556.8	550.5	545.1	538.0	534.9	532.6	525.6	519.4	512.4	505.3	500.6
20°	542.0	534.2	527.9	520.1	517.8	514.0	506.9	499.9	492.1	484.3	478.9
22.5°	522.5	514.7	507.7	499.9	496.1	492.1	485.1	476.6	468.8	462.5	457.1
25°	499.9	492.9	484.3	477.3	472.6	467.9	460.2	453.2	446.2	436.8	431.4
27.5°	475.0	466.4	460.2	450.9	446.2	443.1	434.5	425.1	418.9	410.4	404.1
30°	446.9	439.2	432.1	422.9	418.2	415.1	407.2	398.7	392.5	383.9	377.7
32.5°	417.3	408.8	400.3	394.0	388.6	385.5	376.8	371.4	363.6	356.6	349.7
35°	385.5	376.8	370.7	362.0	358.9	355.8	348.8	341.8	334.9	328.6	323.1
37.5°	351.2	345.0	337.9	331.8	329.3	326.2	317.7	311.4	306.0	299.8	295.1
40°	317.7	312.3	307.6	301.3	297.5	295.1	288.8	283.4	277.2	273.3	268.6
42.5°	287.3	281.1	276.5	271.8	267.8	265.5	260.1	256.1	251.5	247.6	242.2
45°	255.4	252.3	246.9	242.9	240.6	237.5	233.5	229.0	225.0	221.9	218.0
47.5°	227.4	224.3	220.3	215.6	214.1	211.8	207.9	204.8	201.7	198.6	194.7
50°	201.7	197.7	194.7	191.6	190.0	187.6	183.8	182.2	179.8	176.8	174.4
52.5°	178.3	175.3	172.1	168.2	167.4	165.9	163.5	160.3	158.1	156.5	154.9
55°	157.3	154.2	151.8	148.7	148.0	146.4	143.3	141.7	140.2	138.6	137.0
57.5°	138.6	135.5	132.3	130.8	129.2	127.7	126.9	124.5	123.1	122.2	120.7
60°	121.5	118.4	116.0	113.7	112.9	112.1	110.6	109.0	107.5	105.9	105.2
62.5°	105.2	102.0	100.5	98.9	97.4	97.4	95.8	94.2	92.7	91.8	90.3
65°	90.3	88.8	86.4	84.1	83.3	83.3	81.0	80.2	79.5	77.9	76.3
67.5°	76.3	74.8	72.4	71.6	70.9	70.1	69.4	67.8	66.2	65.4	63.8
70°	63.8	62.3	60.7	60.0	59.1	58.4	56.9	56.0	54.5	53.7	53.0
72.5°	51.4	50.6	49.0	48.3	47.5	46.8	45.9	45.2	43.6	42.8	42.1
75°	41.2	40.5	38.9	38.1	37.4	37.4	36.5	35.1	34.3	34.3	33.5
77.5°	31.1	30.4	29.6	28.8	28.0	28.0	27.3	26.4	25.7	25.7	24.9
80°	22.6	21.8	21.0	21.0	21.0	20.2	19.5	19.5	18.6	18.6	17.9
82.5°	14.8	14.8	14.1	14.1	14.1	13.2	13.2	12.5	12.5	12.5	12.5
85°	8.5	8.5	8.5	7.8	7.8	7.8	7.8	7.8	7.8	7.0	7.8
87.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.1	3.1	3.1
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°	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8
2.5°	570.7	570.0	568.4	568.4	566.9	566.9	566.1	565.3	564.6	563.7	563.0
5°	565.3	562.2	560.6	559.9	558.3	557.5	555.2	553.6	552.8	551.2	549.8
7.5°	555.2	552.1	549.0	548.2	547.4	544.3	542.0	539.6	538.0	536.5	534.9
10°	543.5	540.4	536.5	534.9	533.3	529.5	526.4	524.1	520.9	517.8	517.0
12.5°	529.5	524.8	520.1	518.5	516.3	512.4	509.3	505.3	503.0	499.1	498.3
15°	513.1	507.7	503.8	499.9	498.3	494.5	489.0	485.8	481.2	479.7	475.8
17.5°	493.7	488.3	482.7	481.2	478.9	473.5	467.9	464.1	459.4	457.1	454.7
20°	473.5	466.4	461.0	459.4	456.3	451.6	446.2	442.3	438.4	433.7	431.4
22.5°	450.0	442.3	437.6	433.7	433.0	427.4	421.3	418.2	415.1	411.1	408.1
25°	424.4	417.3	411.9	408.8	407.2	402.5	397.9	394.0	389.3	387.0	383.1
27.5°	397.9	393.2	386.2	383.1	380.8	376.8	371.4	369.1	364.4	361.3	358.9
30°	372.3	365.2	361.3	357.4	355.1	351.2	346.5	344.1	340.3	337.2	334.9
32.5°	344.1	339.4	334.0	332.5	329.3	325.5	322.4	318.5	315.4	312.3	311.4
35°	318.5	312.3	306.8	305.2	302.9	299.1	297.5	295.1	291.2	290.4	287.3
37.5°	290.4	287.3	281.1	278.7	278.0	274.9	271.8	270.2	267.8	265.5	264.8
40°	264.0	260.1	257.0	254.6	253.0	250.7	247.6	246.9	245.3	242.2	241.4
42.5°	239.1	235.1	232.0	231.3	229.0	226.6	225.0	222.7	221.9	221.2	219.6
45°	214.9	212.6	209.5	208.7	207.9	204.8	203.3	201.7	200.1	199.3	197.7
47.5°	193.2	190.8	188.5	187.6	186.1	185.3	182.9	182.2	179.8	179.1	178.3
50°	172.1	170.6	169.0	168.2	166.6	165.9	164.3	162.8	161.2	160.3	159.6
52.5°	153.4	151.8	150.2	149.5	148.7	147.1	145.6	144.0	143.3	142.4	141.7
55°	135.5	133.9	133.2	132.3	131.6	130.8	128.5	127.7	126.9	126.1	124.5
57.5°	119.1	117.6	116.0	116.0	115.3	114.4	112.9	111.3	111.3	109.7	108.2
60°	104.3	102.8	101.2	100.5	99.6	98.1	97.4	96.5	95.8	95.0	93.4
62.5°	88.8	88.0	86.4	86.4	84.9	84.1	83.3	82.6	81.7	80.2	79.5
65°	75.5	74.8	73.2	72.4	72.4	71.6	70.1	69.4	68.5	68.5	67.8
67.5°	63.1	62.3	60.7	60.0	60.0	59.1	58.4	58.4	57.6	56.9	57.6
70°	52.2	50.6	50.6	49.9	49.9	49.0	48.3	48.3	48.3	49.0	49.0
72.5°	41.2	40.5	39.7	39.7	39.7	39.7	38.9	38.9	39.7	40.5	40.5
75°	32.7	32.0	32.0	32.0	31.1	31.1	32.0	32.0	32.7	32.7	32.7
77.5°	24.2	24.2	24.2	24.2	24.2	24.2	24.9	24.9	25.7	25.7	25.7
80°	17.9	17.9	17.9	17.9	17.9	18.6	18.6	18.6	18.6	18.6	19.5
82.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	13.2	13.2	13.2	13.2
85°	7.0	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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: P583710

CATALOG NUMBER: HC810D010-HM80520827-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	573.8	573.8	573.8	573.8	573.8	573.8	573.8	573.8
2.5°	562.2	562.2	562.2	563.0	561.5	561.5	561.5	561.5
5°	549.0	548.2	547.4	548.2	546.7	546.7	545.8	545.8
7.5°	532.6	531.9	531.0	531.0	529.5	529.5	528.8	527.9
10°	514.7	513.1	514.0	512.4	511.6	510.8	510.0	509.3
12.5°	495.2	493.7	492.9	491.4	489.8	489.0	489.8	488.3
15°	474.2	471.9	471.1	469.5	467.9	467.2	467.2	466.4
17.5°	450.9	449.3	448.5	446.9	446.2	444.6	443.9	443.1
20°	429.0	425.1	426.0	424.4	423.6	420.5	420.5	421.3
22.5°	405.0	402.5	401.0	399.4	398.7	397.1	397.1	396.3
25°	380.8	378.4	377.7	376.1	375.3	373.7	373.0	373.0
27.5°	357.4	354.3	354.3	352.8	351.2	350.4	349.7	348.8
30°	332.5	330.2	329.3	329.3	328.6	328.6	326.2	327.1
32.5°	309.2	307.6	306.8	305.2	305.2	304.5	304.5	302.1
35°	285.7	283.4	284.3	282.7	281.9	281.1	281.9	281.1
37.5°	263.2	261.7	261.7	260.1	260.1	259.3	258.6	260.1
40°	240.6	239.8	239.1	238.2	239.1	238.2	236.7	237.5
42.5°	218.0	218.0	217.2	217.2	216.5	216.5	216.5	216.5
45°	197.7	197.0	197.0	196.2	196.2	196.2	196.2	195.4
47.5°	177.5	176.8	176.8	176.8	176.0	176.0	175.3	176.0
50°	158.1	158.1	157.3	157.3	158.1	157.3	156.5	156.5
52.5°	140.2	140.2	139.4	139.4	138.6	137.9	138.6	138.6
55°	123.8	123.1	122.2	122.2	121.5	120.7	120.7	121.5
57.5°	108.2	107.5	106.6	106.6	105.2	104.3	104.3	104.3
60°	93.4	91.8	91.8	91.1	91.1	90.3	90.3	90.3
62.5°	79.5	78.6	78.6	78.6	78.6	77.9	77.9	77.9
65°	67.8	67.8	67.8	68.5	68.5	69.4	69.4	69.4
67.5°	58.4	59.1	59.1	59.1	60.0	60.0	60.0	59.1
70°	49.9	49.9	49.9	50.6	50.6	50.6	50.6	50.6
72.5°	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2
75°	32.7	33.5	33.5	33.5	32.7	33.5	33.5	32.7
77.5°	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7
80°	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
82.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
85°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)