

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: P583709

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583709
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC810D010-HM80520827-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 970.3 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

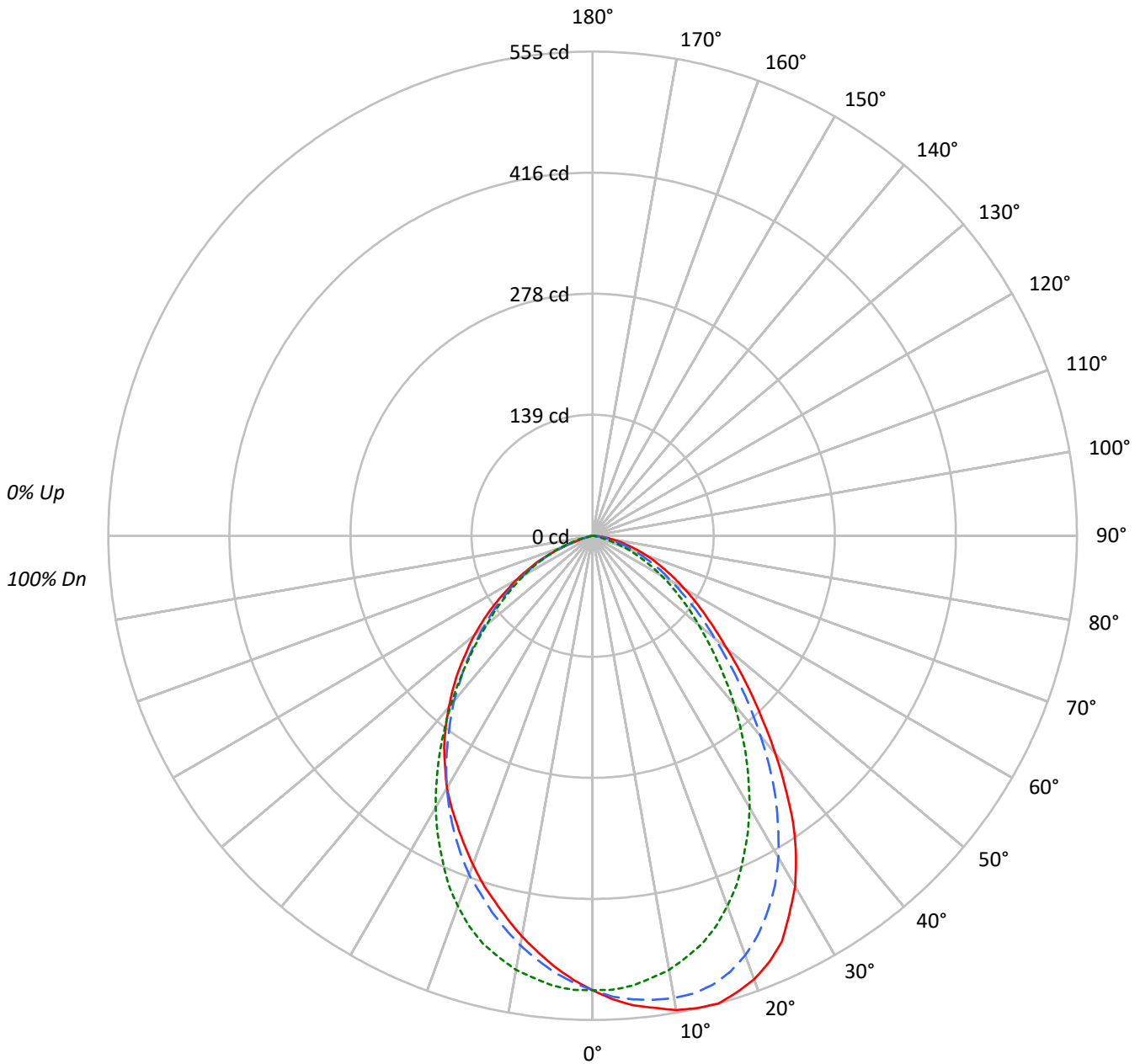
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16063	16063	16063
5°	16728	16028	15356
10°	17287	15822	14604
15°	17724	15461	13845
20°	17756	14819	13159
25°	17458	13885	12477
30°	16525	12811	11893
35°	15069	11519	11169
40°	13103	10156	10309
45°	11238	8796	9441
50°	9599	7584	8482
55°	8414	6532	7365
60°	7493	5569	6198
65°	6647	4546	4947
70°	5896	3372	2804
75°	4909	1763	834
80°	3871	550	124
85°	2760	248	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.1	5.1
10°-20°	137.6	14.2
20°-30°	194.7	20.1
30°-40°	203.7	21.0
40°-50°	169.9	17.5
50°-60°	120.5	12.4
60°-70°	69.4	7.2
70°-80°	22.3	2.3
80°-90°	3.0	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°	381.4	39.3
0°-40°	585.1	60.3
0°-60°	875.5	90.2
0°-90°	970.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	970.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	521	521	521	521	521	
5°	540	533	518	502	496	52
15°	555	533	484	446	434	156
25°	513	475	408	375	367	234
35°	400	365	306	290	297	248
45°	258	237	202	204	216	200
55°	156	140	122	128	137	141
65°	91	76	62	62	68	91
75°	41	30	15	7	7	45
85°	8	4	1	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°	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9
2.5°	531.9	531.0	530.3	531.0	530.3	531.0	530.3	530.3	529.5	528.8	528.8
5°	540.4	539.6	539.6	539.6	538.9	538.0	538.0	537.3	535.7	534.9	533.4
7.5°	545.8	546.7	546.7	546.7	545.1	545.1	543.5	542.0	540.4	538.9	536.5
10°	552.1	552.1	551.4	550.5	549.0	548.2	547.4	545.8	543.5	540.4	538.0
12.5°	554.4	554.4	553.6	552.1	551.4	550.5	549.8	547.4	544.3	540.4	537.3
15°	555.2	553.6	552.8	552.1	550.5	548.2	548.2	545.1	541.1	536.5	532.6
17.5°	549.0	549.8	548.2	546.7	544.3	542.7	540.4	538.0	533.4	527.9	524.1
20°	541.1	540.4	539.6	537.3	534.2	533.4	531.0	527.2	523.2	517.0	511.6
22.5°	528.8	527.9	526.4	524.8	521.7	520.1	517.8	513.1	507.7	501.5	495.2
25°	513.1	511.6	509.3	506.2	503.8	502.2	499.1	494.5	488.3	481.2	475.0
27.5°	488.3	490.5	489.0	484.3	482.0	478.9	478.2	471.9	466.4	459.4	452.4
30°	464.1	464.1	461.8	459.4	455.6	453.2	450.0	445.3	439.9	431.4	426.0
32.5°	433.7	433.0	429.8	429.0	426.0	421.3	420.5	414.2	408.8	402.5	395.6
35°	400.3	398.7	395.6	393.2	391.7	389.3	387.0	381.5	376.1	369.9	365.2
37.5°	362.0	362.0	361.3	357.4	355.9	354.3	351.9	346.5	343.4	337.2	332.5
40°	325.5	324.7	322.4	321.5	320.1	317.7	316.1	313.0	308.3	303.6	299.1
42.5°	289.7	290.4	287.3	288.1	285.0	283.4	282.7	278.0	275.6	270.9	267.1
45°	257.7	257.0	255.4	254.6	253.0	251.5	249.9	247.6	243.8	239.1	236.7
47.5°	228.1	225.9	225.9	225.0	224.3	221.2	220.3	218.0	215.6	211.1	207.9
50°	200.1	200.1	200.1	199.3	197.0	196.2	194.7	192.3	190.0	186.9	182.2
52.5°	177.5	177.5	177.5	176.8	173.7	172.8	172.1	169.0	165.9	163.5	160.3
55°	156.5	157.3	156.5	154.9	152.7	152.7	150.2	148.7	145.6	143.3	140.2
57.5°	138.6	138.6	137.0	136.3	134.7	133.9	132.3	130.8	126.9	124.6	120.7
60°	121.5	120.7	120.7	119.1	117.6	116.0	115.3	112.9	111.3	107.5	104.3
62.5°	105.9	105.9	104.3	104.3	101.2	101.2	100.5	98.1	95.8	91.8	90.3
65°	91.1	91.1	90.3	89.5	87.3	86.4	85.7	83.3	81.0	78.6	76.3
67.5°	77.9	77.9	76.3	75.5	73.9	73.2	71.6	70.1	67.8	65.4	63.1
70°	65.4	64.7	63.8	63.1	61.5	60.7	59.1	57.6	55.3	53.7	51.4
72.5°	53.0	53.0	52.2	50.6	49.9	49.0	48.3	46.8	44.4	42.1	40.5
75°	41.2	41.2	41.2	39.7	38.1	37.4	37.4	35.8	34.3	32.0	30.4
77.5°	32.0	31.1	30.4	30.4	28.8	28.0	27.3	26.4	24.2	23.3	21.8
80°	21.8	22.6	21.8	21.0	20.2	19.5	19.5	17.9	17.2	15.6	14.1
82.5°	14.8	14.1	14.1	13.2	13.2	12.5	12.5	10.9	10.1	9.4	8.5
85°	7.8	7.8	7.0	7.0	7.0	6.3	6.3	5.4	5.4	4.7	3.8
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	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°	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9
2.5°	527.9	526.4	525.6	525.6	524.8	524.1	523.2	522.5	520.9	520.9	519.4
5°	531.9	530.3	529.5	527.2	525.6	525.6	522.5	521.7	519.4	517.8	516.3
7.5°	534.9	531.9	529.5	527.2	525.6	524.1	520.9	517.8	514.7	511.6	510.0
10°	534.9	531.9	527.9	524.1	522.5	520.9	517.0	512.4	508.4	505.3	501.5
12.5°	533.4	528.8	524.1	520.9	517.8	515.5	510.8	506.2	501.5	495.2	492.1
15°	528.8	522.5	517.8	512.4	510.0	506.2	502.2	495.2	489.8	484.3	480.4
17.5°	519.4	511.6	506.2	500.6	496.8	494.5	488.3	482.0	475.8	469.5	464.8
20°	505.3	498.3	492.1	485.1	482.0	478.9	471.1	464.8	458.7	451.6	446.9
22.5°	488.3	481.2	472.6	467.2	462.5	458.7	451.6	444.6	438.4	432.1	426.0
25°	467.2	460.2	452.4	443.9	440.8	436.8	429.0	422.0	415.1	408.1	402.5
27.5°	444.6	435.2	429.0	419.7	416.6	412.6	404.1	396.3	390.2	384.6	378.4
30°	417.3	410.4	401.8	393.2	390.2	386.2	379.2	372.3	366.0	359.8	353.5
32.5°	387.8	380.8	372.3	366.0	361.3	358.2	351.2	345.0	338.7	332.5	327.1
35°	356.6	348.8	342.6	336.4	332.5	328.6	321.5	316.1	311.4	306.0	300.6
37.5°	324.7	319.3	313.0	306.0	302.2	299.1	293.5	287.3	283.4	278.7	274.9
40°	293.5	287.3	281.9	275.6	272.5	270.2	264.8	260.1	256.1	252.3	249.9
42.5°	261.7	256.1	250.7	246.9	244.5	242.2	238.2	232.8	230.5	226.6	224.3
45°	232.0	227.4	223.5	218.0	216.5	214.9	210.2	206.4	204.0	201.7	200.1
47.5°	204.0	200.9	196.2	193.2	190.8	189.2	186.1	182.9	180.7	179.1	177.5
50°	179.8	176.0	172.8	169.7	168.2	165.9	162.8	161.2	159.6	158.1	158.1
52.5°	157.3	153.4	150.2	148.0	146.4	144.8	142.4	141.7	140.2	140.2	139.4
55°	136.3	133.9	130.8	127.7	126.9	126.1	124.6	123.1	122.2	121.5	122.2
57.5°	118.4	116.0	112.9	110.6	109.7	109.0	108.2	106.7	105.9	105.9	105.9
60°	102.0	99.6	97.4	95.0	95.0	93.4	92.7	91.8	91.1	90.3	90.3
62.5°	87.3	84.9	82.6	81.0	80.2	79.5	77.9	77.0	76.3	76.3	75.5
65°	73.9	70.9	70.1	67.8	67.0	66.2	65.4	63.8	63.1	62.3	61.5
67.5°	60.7	59.1	56.9	55.3	54.5	53.7	53.0	51.4	50.6	49.9	48.3
70°	49.0	47.5	45.9	44.4	43.6	42.8	41.2	39.7	38.9	37.4	35.1
72.5°	38.1	36.5	35.1	33.5	32.7	32.0	30.4	28.8	27.3	25.7	24.2
75°	28.8	27.3	24.9	23.3	22.6	22.6	20.2	18.6	17.2	14.8	13.2
77.5°	20.2	17.9	17.2	15.6	14.8	13.2	11.7	10.1	8.5	7.8	6.3
80°	13.2	11.7	10.1	9.4	8.5	7.8	7.0	5.4	3.8	3.1	2.3
82.5°	7.8	7.0	6.3	5.4	4.7	3.8	3.1	3.1	2.3	1.6	0.7
85°	3.8	3.1	2.3	2.3	1.6	1.6	1.6	0.7	0.7	0.7	0.7
87.5°	1.6	0.7	0.7	0.7	0.7	0.7	0.7	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°	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9
2.5°	518.5	517.8	517.0	516.3	516.3	514.7	514.7	514.0	512.4	511.6	511.6
5°	514.0	511.6	510.0	509.3	508.4	506.2	505.3	503.8	502.2	500.6	499.9
7.5°	506.9	503.0	501.5	500.6	498.3	496.1	494.5	492.1	489.8	487.4	486.7
10°	498.3	494.5	490.5	489.0	486.7	485.1	482.0	478.9	476.6	474.2	471.9
12.5°	487.4	482.7	478.9	477.3	475.0	471.9	467.2	465.7	461.8	460.2	457.1
15°	475.0	469.5	465.7	463.3	461.0	456.3	453.2	450.0	446.2	444.6	441.5
17.5°	459.4	453.2	449.3	446.9	445.3	441.5	436.8	433.0	429.0	427.4	425.1
20°	440.8	436.8	431.4	429.0	427.4	422.9	418.2	416.6	413.5	410.4	408.1
22.5°	419.7	415.8	410.4	408.1	407.2	403.4	399.4	397.1	394.7	392.5	390.2
25°	397.9	393.2	388.6	387.0	385.5	382.4	379.2	377.7	375.3	373.8	372.3
27.5°	374.5	369.9	366.0	363.6	362.0	359.8	358.2	356.6	355.1	353.5	352.8
30°	349.7	345.0	341.8	340.3	338.7	338.0	335.6	334.9	334.0	332.5	333.3
32.5°	324.7	320.8	317.7	315.4	315.4	313.8	313.0	313.0	312.3	312.3	312.3
35°	297.5	295.1	292.8	292.0	291.2	290.4	289.7	290.4	289.7	290.4	291.2
37.5°	272.5	270.2	268.6	267.8	267.1	267.8	267.1	267.1	267.8	269.4	270.2
40°	246.9	245.3	243.8	244.5	243.8	243.8	243.8	246.0	246.9	247.6	248.5
42.5°	222.7	221.2	220.3	220.3	221.2	220.3	221.9	222.7	224.3	226.6	228.1
45°	199.3	198.6	198.6	199.3	198.6	200.1	200.1	201.7	204.0	205.5	207.1
47.5°	177.5	177.5	177.5	178.3	178.3	179.1	180.7	181.4	182.9	184.5	186.1
50°	157.3	158.1	158.9	158.9	158.9	160.3	161.9	162.8	163.5	164.3	166.6
52.5°	139.4	140.2	140.2	141.0	141.7	142.4	143.3	144.8	145.6	147.1	148.0
55°	122.2	122.2	123.8	124.6	124.6	124.6	126.1	126.1	127.7	128.5	130.1
57.5°	105.9	106.7	106.7	107.5	107.5	108.2	109.0	109.7	110.6	111.3	112.1
60°	90.3	90.3	90.3	91.1	91.8	92.7	91.8	93.4	93.4	95.0	95.8
62.5°	75.5	76.3	76.3	76.3	76.3	76.3	76.3	77.0	77.9	78.6	79.5
65°	61.5	61.5	61.5	60.7	61.5	60.7	61.5	62.3	62.3	63.1	63.8
67.5°	47.5	47.5	45.9	45.9	46.8	46.8	46.8	46.8	45.9	47.5	47.5
70°	34.3	33.5	32.7	32.0	32.0	31.1	31.1	30.4	30.4	30.4	30.4
72.5°	22.6	21.0	19.5	18.6	17.9	17.9	16.3	15.6	16.3	16.3	16.3
75°	11.7	10.1	9.4	8.5	7.8	7.8	7.0	7.0	7.0	7.0	7.0
77.5°	4.7	3.8	3.1	3.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	1.6	1.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.0	0.0	0.7	0.0	0.7	0.7	0.7	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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CATALOG NUMBER: HC810D010-HM80520827-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	520.9	520.9	520.9	520.9	520.9	520.9	520.9	520.9
2.5°	510.8	510.8	510.0	510.8	509.3	510.0	509.3	509.3
5°	499.1	497.6	497.6	497.6	496.8	496.8	496.1	496.1
7.5°	485.1	484.3	483.6	482.7	482.0	481.2	481.2	481.2
10°	471.1	469.5	469.5	468.8	467.2	466.4	466.4	466.4
12.5°	454.7	454.0	453.2	453.2	450.0	450.9	450.0	450.0
15°	439.2	438.4	438.4	436.1	434.5	434.5	434.5	433.7
17.5°	422.9	422.0	421.3	419.7	418.2	418.2	417.3	418.2
20°	405.7	405.0	403.4	403.4	402.5	401.8	400.3	401.0
22.5°	388.6	387.0	386.2	386.2	385.5	385.5	383.9	383.9
25°	370.7	369.9	369.1	369.9	368.3	368.3	366.7	366.7
27.5°	351.9	351.2	351.2	351.2	350.4	351.2	350.4	350.4
30°	333.3	333.3	332.5	332.5	333.3	332.5	333.3	334.0
32.5°	313.0	313.0	313.8	313.8	314.6	314.6	314.6	314.6
35°	292.0	293.5	293.5	294.4	295.1	295.9	295.9	296.7
37.5°	272.5	273.3	274.1	274.9	276.5	276.5	276.5	276.5
40°	251.5	252.3	253.9	253.0	256.1	257.0	256.1	256.1
42.5°	229.7	231.3	232.0	233.5	234.4	236.0	236.7	236.7
45°	209.5	210.2	211.8	213.4	214.1	216.5	216.5	216.5
47.5°	188.5	190.0	190.8	192.3	193.2	195.4	196.2	195.4
50°	168.2	169.7	171.3	171.3	173.7	174.4	176.0	176.8
52.5°	148.7	149.5	151.1	151.8	153.4	154.9	155.8	156.5
55°	130.1	130.8	132.3	132.3	134.7	135.5	137.0	137.0
57.5°	112.9	113.7	115.3	114.4	116.0	117.6	117.6	116.8
60°	96.5	96.5	96.5	98.1	98.9	99.6	100.5	100.5
62.5°	79.5	81.0	81.7	81.7	82.6	83.3	83.3	82.6
65°	63.8	65.4	66.2	66.2	67.0	67.0	67.0	67.8
67.5°	48.3	48.3	48.3	49.0	48.3	48.3	48.3	48.3
70°	30.4	30.4	30.4	30.4	29.6	30.4	30.4	31.1
72.5°	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
75°	7.0	7.0	7.0	7.8	7.0	7.0	7.0	7.0
77.5°	3.1	2.3	3.1	3.1	2.3	2.3	2.3	2.3
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.0	0.7	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)