

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: P593581

Luminaire Tested: **HC815D010-HM80520950-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593581
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: HC815D010-HM80520950-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1302.4 lumens
Efficiency: N/A
Efficacy: 93.0 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

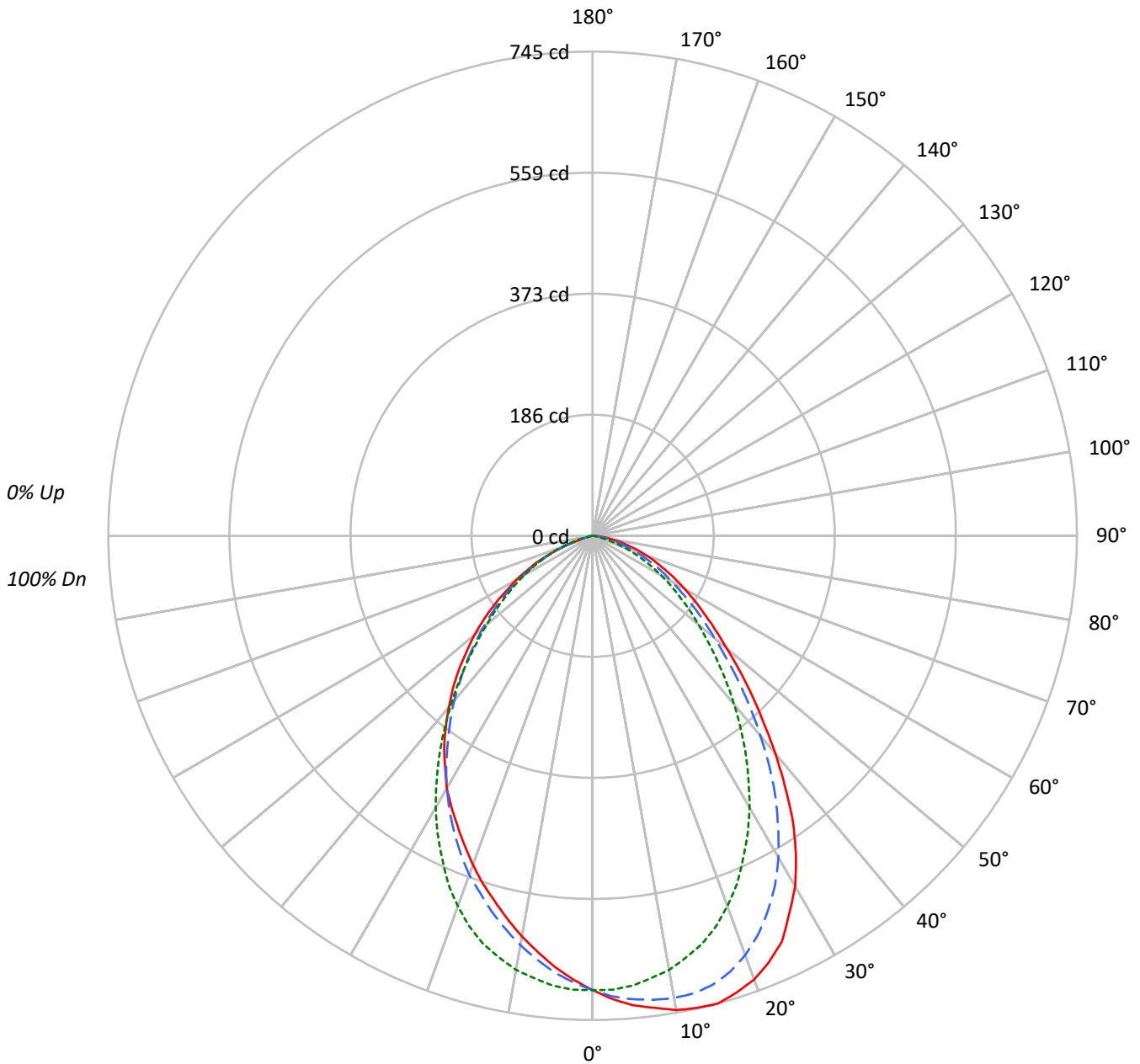
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67				67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59				59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47				47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43				43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39				39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21558	21558	21558
5°	22451	21513	20609
10°	23202	21239	19601
15°	23790	20754	18583
20°	23837	19893	17664
25°	23436	18635	16747
30°	22179	17191	15966
35°	20222	15464	14994
40°	17583	13630	13843
45°	15089	11801	12668
50°	12885	10180	11384
55°	11290	8763	9892
60°	10053	7475	8313
65°	8924	6100	6640
70°	7916	4517	3769
75°	6600	2371	1120
80°	5203	746	195
85°	3715	389	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.9	5.1
10°-20°	184.7	14.2
20°-30°	261.4	20.1
30°-40°	273.4	21.0
40°-50°	228.1	17.5
50°-60°	161.7	12.4
60°-70°	93.1	7.2
70°-80°	30.0	2.3
80°-90°	4.1	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°	511.9	39.3
0°-40°	785.3	60.3
0°-60°	1175.1	90.2
0°-90°	1302.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1302.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	699	699	699	699	699	
5°	725	716	695	674	666	70
15°	745	715	650	599	582	210
25°	689	638	548	504	492	314
35°	537	490	411	389	398	333
45°	346	318	271	274	290	268
55°	210	188	163	171	184	190
65°	122	102	84	84	91	122
75°	55	41	20	9	9	60
85°	10	5	1	0	0	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°	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1
2.5°	713.8	712.8	711.8	712.8	711.8	712.8	711.8	711.8	710.7	709.6	709.6
5°	725.3	724.3	724.3	724.3	723.2	722.2	722.2	721.2	719.0	718.1	715.9
7.5°	732.6	733.7	733.7	733.7	731.6	731.6	729.5	727.5	725.3	723.2	720.1
10°	741.0	741.0	740.0	738.9	736.9	735.8	734.7	732.6	729.5	725.3	722.2
12.5°	744.1	744.1	743.1	741.0	740.0	738.9	737.8	734.7	730.6	725.3	721.2
15°	745.2	743.1	742.0	741.0	738.9	735.8	735.8	731.6	726.4	720.1	714.9
17.5°	736.9	737.8	735.8	733.7	730.6	728.4	725.3	722.2	715.9	708.7	703.4
20°	726.4	725.3	724.3	721.2	717.0	715.9	712.8	707.6	702.3	694.0	686.6
22.5°	709.6	708.7	706.5	704.4	700.2	698.2	695.0	688.8	681.4	673.1	664.7
25°	688.8	686.6	683.5	679.4	676.2	674.1	670.0	663.7	655.3	645.9	637.6
27.5°	655.3	658.4	656.4	650.1	647.0	642.7	641.7	633.3	626.0	616.6	607.2
30°	622.9	622.9	619.7	616.6	611.4	608.3	604.1	597.8	590.4	579.0	571.7
32.5°	582.1	581.1	577.0	575.9	571.7	565.4	564.4	556.0	548.6	540.3	530.9
35°	537.2	535.1	530.9	527.8	525.7	522.6	519.5	512.1	504.8	496.5	490.2
37.5°	486.0	486.0	484.9	479.7	477.7	475.5	472.4	465.1	460.9	452.6	446.3
40°	436.8	435.8	432.7	431.6	429.6	426.4	424.3	420.2	413.9	407.7	401.4
42.5°	388.7	389.8	385.6	386.7	382.5	380.4	379.3	373.1	369.9	363.7	358.5
45°	346.0	344.9	342.8	341.7	339.7	337.5	335.5	332.3	327.2	320.9	317.8
47.5°	306.2	303.1	303.1	302.1	301.0	296.8	295.8	292.7	289.6	283.2	279.1
50°	268.6	268.6	268.6	267.5	264.4	263.4	261.2	258.1	255.0	250.9	244.6
52.5°	238.3	238.3	238.3	237.3	233.0	232.0	231.0	226.8	222.6	219.4	215.3
55°	210.0	211.1	210.0	208.0	204.8	204.8	201.7	199.7	195.5	192.3	188.1
57.5°	186.1	186.1	184.0	182.9	180.8	179.8	177.6	175.6	170.4	167.3	162.0
60°	163.0	162.0	162.0	159.9	157.9	155.7	154.7	151.6	149.4	144.2	140.0
62.5°	142.2	142.2	140.0	140.0	135.9	135.9	134.8	131.7	128.6	123.3	121.2
65°	122.3	122.3	121.2	120.1	117.0	116.0	115.0	111.8	108.7	105.6	102.4
67.5°	104.5	104.5	102.4	101.3	99.3	98.2	96.2	94.1	91.0	87.8	84.7
70°	87.8	86.8	85.7	84.7	82.5	81.6	79.4	77.4	74.2	72.1	68.9
72.5°	71.1	71.1	70.0	68.0	66.9	65.8	64.8	62.7	59.5	56.4	54.3
75°	55.4	55.4	55.4	53.3	51.2	50.1	50.1	48.1	46.0	42.9	40.7
77.5°	42.9	41.8	40.7	40.7	38.7	37.6	36.6	35.5	32.4	31.3	29.3
80°	29.3	30.4	29.3	28.2	27.2	26.1	26.1	24.0	23.0	20.8	18.8
82.5°	19.9	18.8	18.8	17.7	17.7	16.7	16.7	14.6	13.6	12.5	11.4
85°	10.5	10.5	9.4	9.4	9.4	8.3	8.3	7.4	7.4	6.3	5.2
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.0	2.0	2.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1
2.5°	708.7	706.5	705.4	705.4	704.4	703.4	702.3	701.3	699.1	699.1	697.1
5°	713.8	711.8	710.7	707.6	705.4	705.4	701.3	700.2	697.1	695.0	692.9
7.5°	718.1	713.8	710.7	707.6	705.4	703.4	699.1	695.0	690.8	686.6	684.6
10°	718.1	713.8	708.7	703.4	701.3	699.1	694.0	687.7	682.5	678.3	673.1
12.5°	715.9	709.6	703.4	699.1	695.0	691.9	685.6	679.4	673.1	664.7	660.6
15°	709.6	701.3	695.0	687.7	684.6	679.4	674.1	664.7	657.4	650.1	644.8
17.5°	697.1	686.6	679.4	672.0	666.8	663.7	655.3	647.0	638.5	630.2	623.9
20°	678.3	668.9	660.6	651.1	647.0	642.7	632.3	623.9	615.6	606.2	599.8
22.5°	655.3	645.9	634.4	627.1	620.8	615.6	606.2	596.7	588.4	580.1	571.7
25°	627.1	617.7	607.2	595.8	591.5	586.4	575.9	566.5	557.1	547.7	540.3
27.5°	596.7	584.2	575.9	563.3	559.1	553.9	542.4	532.0	523.6	516.3	507.9
30°	560.2	550.8	539.2	527.8	523.6	518.4	509.0	499.6	491.2	482.8	474.5
32.5°	520.4	511.0	499.6	491.2	484.9	480.8	471.4	463.0	454.6	446.3	439.0
35°	478.6	468.3	459.8	451.5	446.3	441.0	431.6	424.3	418.0	410.8	403.4
37.5°	435.8	428.5	420.2	410.8	405.5	401.4	394.0	385.6	380.4	374.2	369.0
40°	394.0	385.6	378.4	369.9	365.8	362.7	355.4	349.1	343.9	338.6	335.5
42.5°	351.1	343.9	336.6	331.3	328.1	325.0	319.8	312.5	309.3	304.1	301.0
45°	311.5	305.2	299.9	292.7	290.5	288.5	282.2	276.9	273.8	270.6	268.6
47.5°	273.8	269.7	263.4	259.2	256.1	254.0	249.8	245.6	242.4	240.4	238.3
50°	241.5	236.2	232.0	227.9	225.7	222.6	218.5	216.3	214.2	212.2	212.2
52.5°	211.1	205.9	201.7	198.6	196.5	194.4	191.2	190.3	188.1	188.1	187.1
55°	182.9	179.8	175.6	171.4	170.4	169.3	167.3	165.1	164.1	163.0	164.1
57.5°	158.8	155.7	151.6	148.5	147.4	146.3	145.3	143.2	142.2	142.2	142.2
60°	136.9	133.8	130.6	127.5	127.5	125.4	124.4	123.3	122.3	121.2	121.2
62.5°	117.0	113.9	110.7	108.7	107.6	106.6	104.5	103.5	102.4	102.4	101.3
65°	99.3	95.1	94.1	91.0	89.9	88.8	87.8	85.7	84.7	83.6	82.5
67.5°	81.6	79.4	76.3	74.2	73.1	72.1	71.1	68.9	68.0	66.9	64.8
70°	65.8	63.7	61.7	59.5	58.6	57.5	55.4	53.3	52.3	50.1	47.0
72.5°	51.2	49.2	47.0	44.9	43.9	42.9	40.7	38.7	36.6	34.5	32.4
75°	38.7	36.6	33.5	31.3	30.4	30.4	27.2	25.1	23.0	19.9	17.7
77.5°	27.2	24.0	23.0	20.8	19.9	17.7	15.7	13.6	11.4	10.5	8.3
80°	17.7	15.7	13.6	12.5	11.4	10.5	9.4	7.4	5.2	4.2	3.1
82.5°	10.5	9.4	8.3	7.4	6.3	5.2	4.2	4.2	3.1	2.0	1.1
85°	5.2	4.2	3.1	3.1	2.0	2.0	2.0	1.1	1.1	1.1	1.1
87.5°	2.0	1.1	1.1	1.1	1.1	1.1	1.1	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°	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1
2.5°	696.0	695.0	694.0	692.9	692.9	690.8	690.8	689.7	687.7	686.6	686.6
5°	689.7	686.6	684.6	683.5	682.5	679.4	678.3	676.2	674.1	672.0	670.9
7.5°	680.3	675.2	673.1	672.0	668.9	665.8	663.7	660.6	657.4	654.3	653.2
10°	668.9	663.7	658.4	656.4	653.2	651.1	647.0	642.7	639.6	636.5	633.3
12.5°	654.3	647.9	642.7	640.7	637.6	633.3	627.1	625.0	619.7	617.7	613.5
15°	637.6	630.2	625.0	621.9	618.8	612.5	608.3	604.1	598.9	596.7	592.6
17.5°	616.6	608.3	603.1	599.8	597.8	592.6	586.4	581.1	575.9	573.8	570.7
20°	591.5	586.4	579.0	575.9	573.8	567.6	561.3	559.1	555.0	550.8	547.7
22.5°	563.3	558.2	550.8	547.7	546.6	541.4	536.1	533.0	529.8	526.7	523.6
25°	534.1	527.8	521.5	519.5	517.3	513.2	509.0	506.9	503.8	501.6	499.6
27.5°	502.7	496.5	491.2	488.0	486.0	482.8	480.8	478.6	476.6	474.5	473.4
30°	469.2	463.0	458.9	456.7	454.6	453.6	450.4	449.5	448.4	446.3	447.3
32.5°	435.8	430.5	426.4	423.3	423.3	421.1	420.2	420.2	419.1	419.1	419.1
35°	399.2	396.1	393.0	391.9	390.9	389.8	388.7	389.8	388.7	389.8	390.9
37.5°	365.8	362.7	360.5	359.6	358.5	359.6	358.5	358.5	359.6	361.6	362.7
40°	331.3	329.2	327.2	328.1	327.2	327.2	327.2	330.3	331.3	332.3	333.4
42.5°	299.0	296.8	295.8	295.8	296.8	295.8	297.9	299.0	301.0	304.1	306.2
45°	267.5	266.5	266.5	267.5	266.5	268.6	268.6	270.6	273.8	275.9	278.0
47.5°	238.3	238.3	238.3	239.3	239.3	240.4	242.4	243.5	245.6	247.7	249.8
50°	211.1	212.2	213.2	213.2	213.2	215.3	217.4	218.5	219.4	220.5	223.6
52.5°	187.1	188.1	188.1	189.2	190.3	191.2	192.3	194.4	195.5	197.5	198.6
55°	164.1	164.1	166.2	167.3	167.3	167.3	169.3	169.3	171.4	172.4	174.5
57.5°	142.2	143.2	143.2	144.2	144.2	145.3	146.3	147.4	148.5	149.4	150.5
60°	121.2	121.2	121.2	122.3	123.3	124.4	123.3	125.4	125.4	127.5	128.6
62.5°	101.3	102.4	102.4	102.4	102.4	102.4	102.4	103.5	104.5	105.6	106.6
65°	82.5	82.5	82.5	81.6	82.5	81.6	82.5	83.6	83.6	84.7	85.7
67.5°	63.7	63.7	61.7	61.7	62.7	62.7	62.7	62.7	61.7	63.7	63.7
70°	46.0	44.9	43.9	42.9	42.9	41.8	41.8	40.7	40.7	40.7	40.7
72.5°	30.4	28.2	26.1	25.1	24.0	24.0	21.9	20.8	21.9	21.9	21.9
75°	15.7	13.6	12.5	11.4	10.5	10.5	9.4	9.4	9.4	9.4	9.4
77.5°	6.3	5.2	4.2	4.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	2.0	2.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	1.1	0.0	0.0	1.1	0.0	1.1	1.1	1.1	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: HC815D010-HM80520950-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	699.1	699.1	699.1	699.1	699.1	699.1	699.1	699.1
2.5°	685.6	685.6	684.6	685.6	683.5	684.6	683.5	683.5
5°	670.0	667.8	667.8	667.8	666.8	666.8	665.8	665.8
7.5°	651.1	650.1	649.0	647.9	647.0	645.9	645.9	645.9
10°	632.3	630.2	630.2	629.1	627.1	626.0	626.0	626.0
12.5°	610.3	609.4	608.3	608.3	604.1	605.2	604.1	604.1
15°	589.5	588.4	588.4	585.3	583.2	583.2	583.2	582.1
17.5°	567.6	566.5	565.4	563.3	561.3	561.3	560.2	561.3
20°	544.5	543.5	541.4	541.4	540.3	539.2	537.2	538.3
22.5°	521.5	519.5	518.4	518.4	517.3	517.3	515.3	515.3
25°	497.5	496.5	495.4	496.5	494.3	494.3	492.2	492.2
27.5°	472.4	471.4	471.4	471.4	470.3	471.4	470.3	470.3
30°	447.3	447.3	446.3	446.3	447.3	446.3	447.3	448.4
32.5°	420.2	420.2	421.1	421.1	422.2	422.2	422.2	422.2
35°	391.9	394.0	394.0	395.1	396.1	397.2	397.2	398.3
37.5°	365.8	366.8	367.9	369.0	371.0	371.0	371.0	371.0
40°	337.5	338.6	340.8	339.7	343.9	344.9	343.9	343.9
42.5°	308.4	310.4	311.5	313.5	314.6	316.7	317.8	317.8
45°	281.1	282.2	284.3	286.3	287.4	290.5	290.5	290.5
47.5°	252.9	255.0	256.1	258.1	259.2	262.3	263.4	262.3
50°	225.7	227.9	229.9	229.9	233.0	234.1	236.2	237.3
52.5°	199.7	200.6	202.8	203.8	205.9	208.0	209.1	210.0
55°	174.5	175.6	177.6	177.6	180.8	181.8	184.0	184.0
57.5°	151.6	152.6	154.7	153.6	155.7	157.9	157.9	156.8
60°	129.5	129.5	129.5	131.7	132.8	133.8	134.8	134.8
62.5°	106.6	108.7	109.8	109.8	110.7	111.8	111.8	110.7
65°	85.7	87.8	88.8	88.8	89.9	89.9	89.9	91.0
67.5°	64.8	64.8	64.8	65.8	64.8	64.8	64.8	64.8
70°	40.7	40.7	40.7	40.7	39.8	40.7	40.7	41.8
72.5°	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
75°	9.4	9.4	9.4	10.5	9.4	9.4	9.4	9.4
77.5°	4.2	3.1	4.2	4.2	3.1	3.1	3.1	3.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	0.0	1.1	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)