

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: P583923

Luminaire Tested: **HC815D010-HM80520930-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583923
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: HC815D010-HM80520930-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1368.8 lumens
Efficiency: N/A
Efficacy: 97.8 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

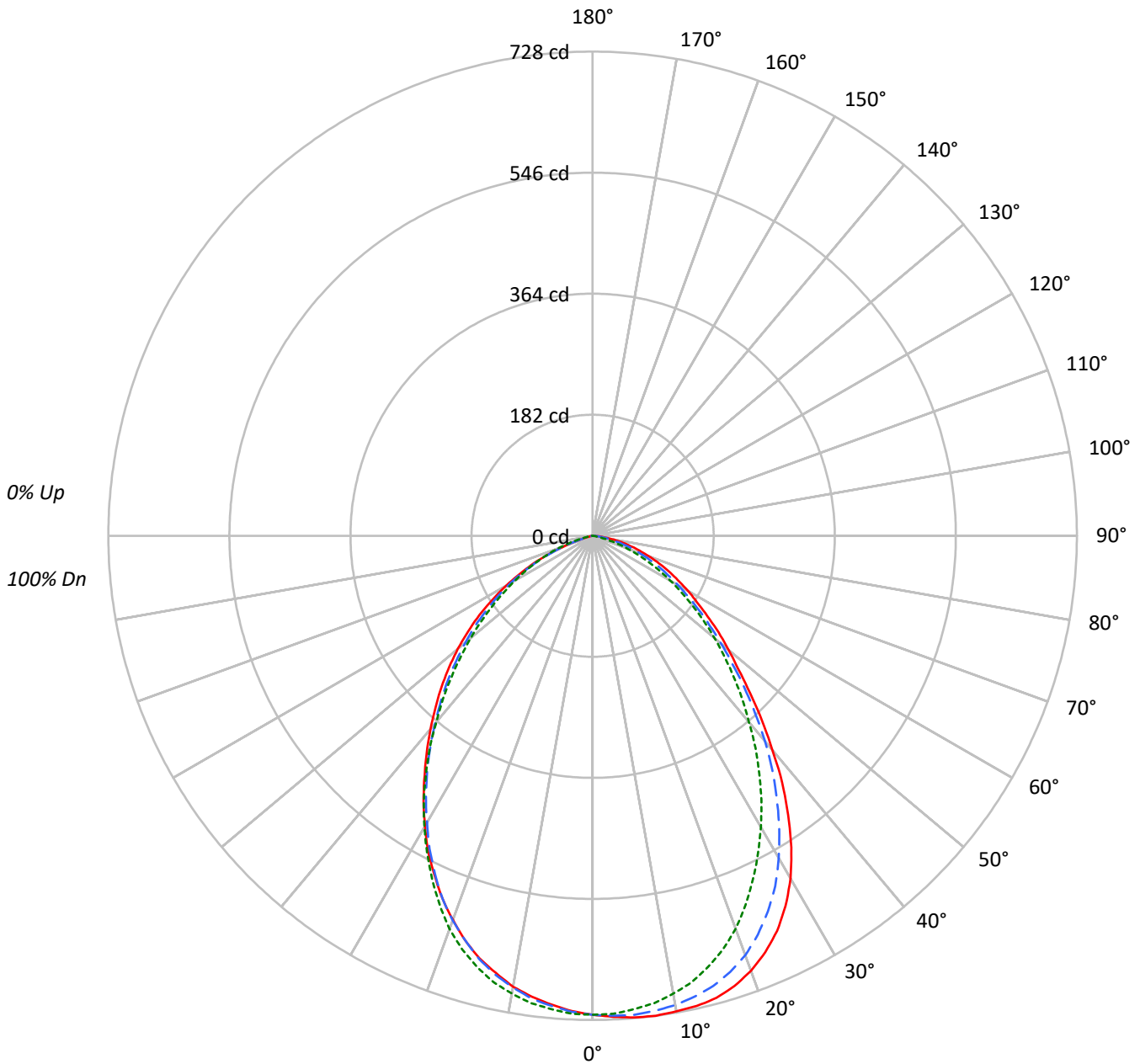
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	22208	22208	22208
5°	22504	22114	21906
10°	22733	21887	21558
15°	22963	21427	20996
20°	22843	20638	20162
25°	22313	19401	19139
30°	21190	18006	17939
35°	19293	16435	16579
40°	16915	14709	15252
45°	14592	13083	14003
50°	12775	11485	12684
55°	11322	9871	11166
60°	10201	8301	9251
65°	9186	6662	7085
70°	8060	4860	3904
75°	6875	2526	1037
80°	5292	693	178
85°	3397	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	5.0
10°-20°	191.0	14.0
20°-30°	271.1	19.8
30°-40°	285.4	20.8
40°-50°	242.8	17.7
50°-60°	175.5	12.8
60°-70°	99.8	7.3
70°-80°	31.5	2.3
80°-90°	3.8	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°	530.1	38.7
0°-40°	815.5	59.6
0°-60°	1233.7	90.1
0°-90°	1368.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1368.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	720	720	720	720	720	
5°	727	723	714	710	708	69
15°	719	701	671	659	658	203
25°	656	623	570	561	562	300
35°	512	483	437	434	440	319
45°	335	322	300	308	321	260
55°	211	195	184	194	208	190
65°	126	109	91	90	97	125
75°	58	44	21	10	9	62
85°	10	6	0	0	0	12
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°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	724.1	725.0	723.1	723.1	725.0	723.1	724.1	724.1	723.1	723.1	722.2
5°	727.0	726.0	726.0	726.0	727.0	725.0	724.1	725.0	723.1	723.1	723.1
7.5°	727.9	727.9	727.0	726.0	726.0	726.0	725.0	724.1	723.1	721.2	720.2
10°	726.0	726.0	727.0	725.0	725.0	723.1	723.1	721.2	721.2	719.3	716.4
12.5°	724.1	723.1	723.1	721.2	721.2	719.3	719.3	716.4	715.4	712.5	709.6
15°	719.3	718.3	716.4	715.4	714.4	713.5	711.6	710.6	707.7	703.8	700.9
17.5°	709.6	708.7	707.7	705.8	703.8	702.9	701.9	699.0	695.2	692.3	687.6
20°	696.1	695.2	695.2	692.3	691.3	688.5	687.6	683.7	680.8	675.0	671.2
22.5°	677.9	678.9	677.0	675.0	673.1	670.2	668.3	664.4	659.6	653.8	649.0
25°	655.8	656.7	654.8	652.9	650.0	648.0	646.1	640.5	635.6	628.9	623.1
27.5°	627.9	627.9	627.9	626.0	621.2	620.2	618.3	612.5	605.8	600.0	594.2
30°	595.1	594.2	594.2	591.4	589.5	585.6	582.7	577.9	573.1	566.4	559.6
32.5°	555.7	556.7	553.8	551.9	549.0	549.0	545.3	541.4	535.6	528.9	522.1
35°	512.5	513.5	511.5	510.6	505.7	504.8	503.8	499.0	495.3	490.4	482.7
37.5°	468.3	467.3	466.3	466.3	463.4	461.5	459.6	456.7	451.0	447.2	443.3
40°	420.2	420.2	420.2	419.2	418.3	416.3	415.4	413.4	409.6	405.7	403.0
42.5°	376.9	376.9	376.0	375.0	373.1	374.0	372.1	370.2	366.3	363.4	361.5
45°	334.6	334.6	334.6	335.6	333.7	330.8	330.8	328.8	326.9	325.0	322.1
47.5°	297.2	300.0	298.1	297.2	298.1	294.3	294.3	292.3	290.4	288.5	284.6
50°	266.3	266.3	266.3	264.4	263.4	263.4	260.6	258.7	257.7	255.8	252.0
52.5°	238.5	236.5	236.5	235.6	234.6	232.7	232.7	230.8	226.9	225.0	222.1
55°	210.6	210.6	209.7	208.7	207.7	206.8	205.8	202.9	201.0	198.1	195.2
57.5°	185.6	187.5	186.5	184.6	182.7	182.7	180.8	178.8	175.9	173.0	170.1
60°	165.4	164.5	164.5	163.5	161.6	160.6	159.7	156.8	153.9	151.0	148.1
62.5°	144.2	144.2	144.2	142.3	140.4	139.4	138.5	136.5	132.7	129.8	127.9
65°	125.9	125.0	124.0	123.0	122.1	120.1	119.2	117.4	114.5	111.6	108.7
67.5°	107.7	106.8	106.8	105.8	102.9	101.9	101.9	99.1	96.2	93.3	90.4
70°	89.4	89.4	89.4	87.5	86.5	85.6	84.6	82.7	79.8	76.9	74.0
72.5°	74.0	73.0	73.0	72.1	69.3	68.3	67.4	65.4	62.5	60.6	58.7
75°	57.7	57.7	56.8	55.8	54.8	53.9	52.9	51.0	48.1	45.2	44.2
77.5°	44.2	43.3	43.3	42.3	40.4	39.4	39.4	37.5	34.6	32.7	30.7
80°	29.8	30.7	29.8	28.8	27.8	26.9	25.9	24.9	23.1	21.2	19.3
82.5°	18.3	19.3	18.3	18.3	17.4	16.4	16.4	14.5	13.5	12.5	11.6
85°	9.6	9.6	9.6	9.6	8.7	8.7	8.7	7.7	6.7	5.8	5.8
87.5°	2.9	3.9	2.9	2.9	2.9	2.9	2.9	2.9	1.9	1.9	1.9
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°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	723.1	722.2	721.2	721.2	721.2	721.2	721.2	720.2	719.3	719.3	719.3
5°	721.2	721.2	721.2	720.2	719.3	719.3	717.3	716.4	715.4	714.4	713.5
7.5°	719.3	717.3	716.4	715.4	714.4	714.4	712.5	710.6	710.6	708.7	706.7
10°	713.5	712.5	710.6	708.7	707.7	706.7	704.8	701.9	700.9	699.0	697.1
12.5°	706.7	704.8	702.9	699.0	698.1	697.1	693.2	690.3	688.5	687.6	682.8
15°	698.1	694.2	691.3	686.6	685.6	683.7	680.8	677.9	674.1	671.2	669.3
17.5°	682.8	678.9	674.1	669.3	667.3	667.3	662.5	658.7	653.8	651.9	648.0
20°	664.4	659.6	655.8	650.0	647.1	644.2	641.3	635.6	631.8	628.9	624.1
22.5°	643.2	636.6	631.8	626.0	621.2	618.3	613.5	608.6	603.8	600.9	597.1
25°	616.4	610.6	602.9	597.1	594.2	590.4	584.7	579.8	575.0	570.2	568.3
27.5°	586.6	578.9	572.1	565.4	562.5	559.6	552.9	547.1	543.3	538.5	536.6
30°	553.8	546.2	538.5	532.7	529.8	525.0	521.2	514.4	509.6	505.7	500.9
32.5°	516.3	510.6	503.8	495.3	493.3	489.5	483.7	480.8	475.0	472.1	468.3
35°	476.0	472.1	465.4	458.6	455.7	453.8	449.1	443.3	439.5	436.6	434.6
37.5°	437.5	432.7	426.0	421.1	419.2	416.3	410.5	407.7	403.8	402.0	398.1
40°	396.2	391.4	386.6	383.7	380.8	378.9	375.0	372.1	368.2	365.4	364.4
42.5°	355.8	352.9	349.1	345.2	344.3	341.4	339.4	336.6	333.7	332.7	329.8
45°	319.2	316.3	312.5	308.7	307.8	305.8	304.9	302.0	300.0	300.0	300.0
47.5°	282.7	279.8	275.9	274.0	275.0	271.1	271.1	270.2	268.2	268.2	269.2
50°	250.0	246.2	245.2	243.3	241.4	239.4	240.4	237.5	237.5	239.4	238.5
52.5°	219.2	215.3	214.4	212.6	211.6	211.6	210.6	210.6	209.7	210.6	210.6
55°	191.4	188.5	186.5	184.6	183.6	183.6	183.6	182.7	181.7	183.6	184.6
57.5°	166.3	165.4	163.5	160.6	159.7	158.7	157.7	157.7	157.7	157.7	158.7
60°	144.2	142.3	140.4	137.5	137.5	136.5	135.6	134.6	134.6	134.6	134.6
62.5°	125.0	122.1	119.2	117.4	116.4	115.4	114.5	112.5	112.5	112.5	112.5
65°	105.8	102.9	101.0	99.1	97.1	97.1	95.2	94.2	92.3	91.3	89.4
67.5°	87.5	85.6	83.6	80.7	79.8	78.8	76.9	75.9	73.0	72.1	71.2
70°	71.2	68.3	66.4	64.5	63.5	61.6	59.6	57.7	55.8	53.9	51.9
72.5°	55.8	52.9	51.0	49.0	47.1	47.1	44.2	42.3	39.4	37.5	34.6
75°	41.3	38.4	36.5	33.6	32.7	31.7	28.8	26.9	24.0	21.2	19.3
77.5°	27.8	25.9	24.0	21.2	19.3	19.3	16.4	14.5	12.5	9.6	8.7
80°	17.4	15.4	13.5	11.6	11.6	9.6	8.7	6.7	4.8	3.9	2.9
82.5°	9.6	8.7	7.7	5.8	5.8	4.8	3.9	2.9	1.9	1.0	1.0
85°	4.8	3.9	2.9	2.9	1.9	1.9	1.9	1.0	1.0	0.0	0.0
87.5°	1.9	1.0	1.0	1.0	1.0	1.0	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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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	718.3	718.3	717.3	717.3	717.3	716.4	717.3	716.4	716.4	716.4	717.3
5°	714.4	712.5	712.5	711.6	711.6	710.6	711.6	710.6	709.6	708.7	709.6
7.5°	706.7	704.8	703.8	702.9	702.9	702.9	701.9	700.9	701.9	699.0	700.9
10°	696.1	695.2	693.2	692.3	691.3	692.3	691.3	689.4	689.4	689.4	688.5
12.5°	682.8	680.8	679.9	678.9	677.0	677.0	677.9	676.0	676.0	674.1	674.1
15°	666.4	664.4	662.5	662.5	660.6	660.6	659.6	659.6	658.7	657.7	657.7
17.5°	646.1	643.2	641.3	642.3	641.3	640.5	640.5	638.5	637.6	638.5	638.5
20°	622.1	620.2	618.3	619.2	617.3	616.4	617.3	614.4	615.4	615.4	615.4
22.5°	595.1	594.2	591.4	591.4	589.5	588.5	589.5	589.5	590.4	589.5	589.5
25°	565.4	563.5	561.5	561.5	560.6	559.6	560.6	561.5	560.6	561.5	561.5
27.5°	533.7	530.8	530.8	528.9	528.9	529.8	528.9	529.8	530.8	530.8	532.7
30°	499.0	498.1	497.2	496.2	496.2	497.2	497.2	497.2	498.1	500.0	500.0
32.5°	466.3	464.4	462.5	462.5	464.4	463.4	464.4	464.4	466.3	466.3	468.3
35°	430.8	430.8	428.9	429.8	429.8	429.8	429.8	431.8	433.7	434.6	436.6
37.5°	398.1	395.2	396.2	396.2	397.2	396.2	399.1	399.1	401.0	401.0	403.0
40°	362.5	362.5	363.4	362.5	363.4	363.4	365.4	367.3	368.2	370.2	371.1
42.5°	328.8	330.8	328.8	329.8	330.8	331.7	332.7	333.7	337.5	339.4	342.3
45°	298.1	299.1	300.0	301.0	300.0	302.0	302.9	304.9	307.8	308.7	309.6
47.5°	268.2	269.2	270.2	271.1	271.1	273.1	274.0	275.9	277.9	278.8	279.8
50°	239.4	241.4	242.3	242.3	243.3	245.2	247.1	247.1	249.1	252.0	252.9
52.5°	213.5	213.5	215.3	216.3	217.3	217.3	220.2	221.1	222.1	224.0	225.9
55°	184.6	187.5	188.5	188.5	190.4	192.3	193.3	194.2	194.2	198.1	198.1
57.5°	159.7	160.6	162.6	162.6	162.6	165.4	165.4	167.3	168.2	169.2	171.1
60°	134.6	136.5	136.5	137.5	136.5	138.5	139.4	141.3	142.3	143.3	144.2
62.5°	111.6	111.6	112.5	112.5	112.5	112.5	114.5	114.5	116.4	117.4	118.3
65°	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	90.4	90.4	92.3
67.5°	69.3	68.3	66.4	67.4	66.4	66.4	65.4	65.4	66.4	66.4	68.3
70°	50.0	49.0	47.1	47.1	46.2	45.2	44.2	43.3	42.3	42.3	42.3
72.5°	32.7	30.7	27.8	26.9	26.9	24.9	23.1	22.2	22.2	22.2	22.2
75°	16.4	14.5	12.5	11.6	11.6	9.6	10.6	9.6	9.6	9.6	9.6
77.5°	6.7	4.8	3.9	3.9	3.9	2.9	2.9	2.9	2.9	2.9	2.9
80°	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	720.2	720.2	720.2	720.2	720.2	720.2	720.2	720.2
2.5°	716.4	716.4	714.4	715.4	715.4	715.4	715.4	715.4
5°	707.7	708.7	707.7	708.7	708.7	707.7	707.7	707.7
7.5°	699.0	700.0	699.0	700.0	700.0	700.0	699.0	699.0
10°	688.5	688.5	688.5	688.5	688.5	687.6	688.5	688.5
12.5°	674.1	674.1	674.1	675.0	675.0	674.1	674.1	673.1
15°	658.7	656.7	657.7	658.7	657.7	657.7	657.7	657.7
17.5°	637.6	638.5	637.6	637.6	637.6	637.6	638.5	637.6
20°	615.4	615.4	616.4	615.4	615.4	615.4	615.4	614.4
22.5°	590.4	589.5	589.5	590.4	590.4	589.5	590.4	590.4
25°	562.5	563.5	562.5	562.5	563.5	563.5	563.5	562.5
27.5°	532.7	533.7	534.7	533.7	533.7	533.7	534.7	535.6
30°	501.9	503.8	501.9	501.9	503.8	502.8	503.8	503.8
32.5°	469.2	472.1	470.2	472.1	472.1	473.1	472.1	473.1
35°	436.6	439.5	439.5	439.5	440.4	441.4	441.4	440.4
37.5°	405.7	406.7	406.7	408.6	409.6	410.5	410.5	409.6
40°	374.0	376.0	376.9	376.9	376.9	378.9	380.8	378.9
42.5°	343.3	344.3	345.2	345.2	347.2	348.1	349.1	349.1
45°	313.4	315.3	316.3	317.3	318.2	320.2	319.2	321.1
47.5°	282.7	285.6	286.5	287.5	289.4	290.4	291.4	292.3
50°	254.9	256.8	256.8	258.7	261.5	261.5	263.4	264.4
52.5°	226.9	227.9	228.8	229.8	231.7	233.6	233.6	235.6
55°	200.0	201.0	201.0	202.0	202.9	206.8	207.7	207.7
57.5°	172.1	172.1	174.0	175.0	175.9	177.9	177.9	177.9
60°	145.2	146.2	146.2	147.1	148.1	150.0	151.0	150.0
62.5°	118.3	119.2	119.2	120.1	122.1	123.0	122.1	122.1
65°	93.3	94.2	94.2	95.2	97.1	97.1	96.2	97.1
67.5°	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3
70°	43.3	42.3	41.3	42.3	42.3	42.3	41.3	43.3
72.5°	21.2	22.2	22.2	22.2	22.2	22.2	22.2	21.2
75°	9.6	9.6	8.7	8.7	8.7	9.6	9.6	8.7
77.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)