

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: P584038

Luminaire Tested: **HC820D010-HM80520927-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584038
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: HC820D010-HM80520927-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1683.1 lumens
Efficiency: N/A
Efficacy: 84.2 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

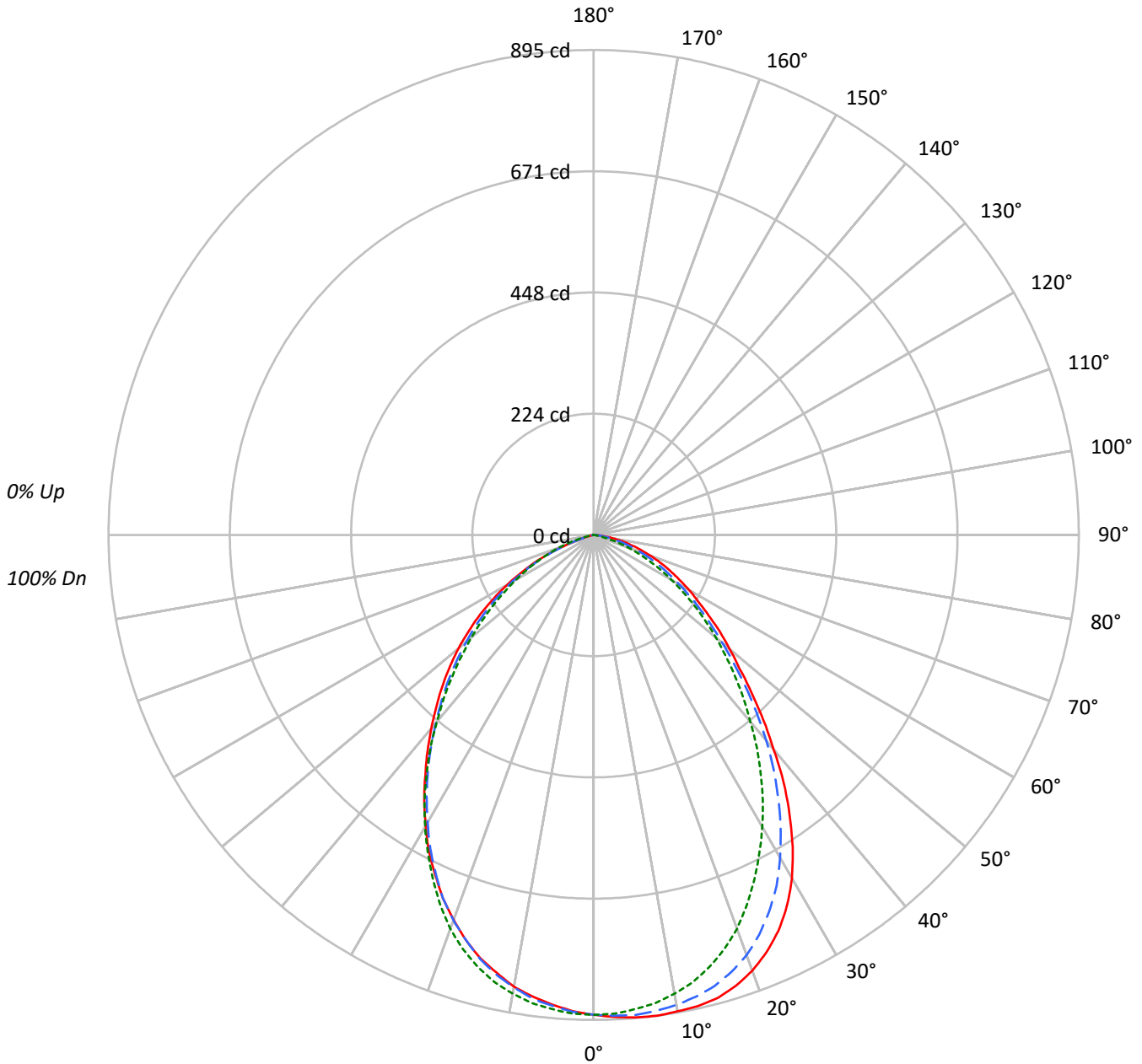
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	85	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°	27312	27312	27312
5°	27670	27193	26936
10°	27955	26916	26506
15°	28237	26347	25817
20°	28090	25376	24792
25°	27437	23858	23534
30°	26061	22147	22062
35°	23723	20211	20388
40°	20799	18086	18750
45°	17945	16087	17221
50°	15711	14123	15601
55°	13924	12145	13731
60°	12544	10207	11379
65°	11295	8194	8712
70°	9909	5969	4796
75°	8447	3098	1263
80°	6499	835	213
85°	4175	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	5.0
10°-20°	234.9	14.0
20°-30°	333.4	19.8
30°-40°	351.0	20.9
40°-50°	298.5	17.7
50°-60°	215.8	12.8
60°-70°	122.7	7.3
70°-80°	38.6	2.3
80°-90°	4.7	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°	651.8	38.7
0°-40°	1002.8	59.6
0°-60°	1517.1	90.1
0°-90°	1683.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1683.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	886	886	886	886	886	
5°	894	889	878	873	870	85
15°	884	862	825	810	809	249
25°	806	766	701	689	692	369
35°	630	594	537	533	542	392
45°	412	396	369	378	395	320
55°	259	240	226	239	255	234
65°	155	134	112	111	119	154
75°	71	54	26	12	11	76
85°	12	7	0	0	0	15
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°	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7
2.5°	890.4	891.6	889.2	889.2	891.6	889.2	890.4	890.4	889.2	889.2	888.0
5°	893.9	892.8	892.8	892.8	893.9	891.6	890.4	891.6	889.2	889.2	889.2
7.5°	895.1	895.1	893.9	892.8	892.8	892.8	891.6	890.4	889.2	886.9	885.7
10°	892.8	892.8	893.9	891.6	891.6	889.2	889.2	886.9	886.9	884.5	880.8
12.5°	890.4	889.2	889.2	886.9	886.9	884.5	884.5	880.8	879.6	876.1	872.6
15°	884.5	883.3	880.8	879.6	878.5	877.3	874.9	873.7	870.2	865.5	861.9
17.5°	872.6	871.4	870.2	867.8	865.5	864.3	863.1	859.6	854.8	851.3	845.4
20°	856.0	854.8	854.8	851.3	850.1	846.5	845.4	840.6	837.1	830.0	825.3
22.5°	833.5	834.7	832.4	830.0	827.6	824.1	821.7	817.0	811.1	804.0	798.1
25°	806.4	807.5	805.2	802.8	799.3	796.9	794.5	787.4	781.5	773.3	766.2
27.5°	772.1	772.1	772.1	769.7	763.8	762.6	760.3	753.2	744.9	737.8	730.7
30°	731.9	730.7	730.7	727.2	724.8	720.1	716.5	710.6	704.7	696.4	688.2
32.5°	683.4	684.6	681.1	678.7	675.2	675.2	670.4	665.7	658.6	650.3	642.1
35°	630.2	631.4	629.1	627.9	622.0	620.8	619.6	613.7	609.0	603.1	593.6
37.5°	575.9	574.7	573.5	573.5	570.0	567.6	565.2	561.7	554.6	549.9	545.1
40°	516.7	516.7	516.7	515.5	514.3	511.9	510.7	508.4	503.7	498.9	495.4
42.5°	463.5	463.5	462.3	461.1	458.7	459.9	457.6	455.2	450.5	446.9	444.6
45°	411.5	411.5	411.5	412.6	410.3	406.7	406.7	404.4	402.0	399.6	396.1
47.5°	365.4	368.9	366.5	365.4	366.5	361.8	361.8	359.4	357.1	354.7	350.0
50°	327.5	327.5	327.5	325.2	324.0	324.0	320.4	318.1	316.9	314.5	309.8
52.5°	293.3	290.9	290.9	289.7	288.5	286.2	286.2	283.8	279.1	276.7	273.2
55°	259.0	259.0	257.8	256.6	255.4	254.2	253.1	249.5	247.2	243.6	240.1
57.5°	228.2	230.6	229.4	227.1	224.7	224.7	222.3	220.0	216.4	212.9	209.3
60°	203.4	202.2	202.2	201.1	198.7	197.5	196.3	192.8	189.2	185.7	182.1
62.5°	177.4	177.4	177.4	174.9	172.6	171.4	170.2	167.8	163.1	159.6	157.2
65°	154.8	153.7	152.5	151.3	150.1	147.8	146.6	144.2	140.7	137.1	133.6
67.5°	132.4	131.2	131.2	130.0	126.5	125.3	125.3	121.7	118.2	114.7	111.1
70°	109.9	109.9	109.9	107.6	106.4	105.2	104.0	101.7	98.1	94.6	91.0
72.5°	91.0	89.8	89.8	88.6	85.1	83.9	82.7	80.4	76.8	74.5	72.1
75°	70.9	70.9	69.7	68.6	67.4	66.2	65.0	62.6	59.1	55.6	54.4
77.5°	54.4	53.2	53.2	52.0	49.6	48.5	48.5	46.1	42.6	40.2	37.8
80°	36.6	37.8	36.6	35.5	34.3	33.1	31.9	30.7	28.4	26.0	23.6
82.5°	22.5	23.6	22.5	22.5	21.3	20.1	20.1	17.7	16.5	15.4	14.2
85°	11.8	11.8	11.8	11.8	10.6	10.6	10.6	9.5	8.3	7.1	7.1
87.5°	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5	2.4	2.4	2.4
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°	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7
2.5°	889.2	888.0	886.9	886.9	886.9	886.9	886.9	885.7	884.5	884.5	884.5
5°	886.9	886.9	886.9	885.7	884.5	884.5	882.1	880.8	879.6	878.5	877.3
7.5°	884.5	882.1	880.8	879.6	878.5	878.5	876.1	873.7	873.7	871.4	869.0
10°	877.3	876.1	873.7	871.4	870.2	869.0	866.6	863.1	861.9	859.6	857.2
12.5°	869.0	866.6	864.3	859.6	858.4	857.2	852.5	848.9	846.5	845.4	839.5
15°	858.4	853.6	850.1	844.2	843.0	840.6	837.1	833.5	828.8	825.3	822.9
17.5°	839.5	834.7	828.8	822.9	820.5	820.5	814.6	809.9	804.0	801.6	796.9
20°	817.0	811.1	806.4	799.3	795.7	792.2	788.6	781.5	776.8	773.3	767.4
22.5°	791.0	782.7	776.8	769.7	763.8	760.3	754.4	748.4	742.5	739.0	734.3
25°	757.9	750.8	741.4	734.3	730.7	726.0	718.9	713.0	707.1	701.2	698.8
27.5°	721.3	711.8	703.5	695.3	691.7	688.2	679.9	672.8	668.1	662.2	659.8
30°	681.1	671.6	662.2	655.1	651.5	645.6	640.9	632.6	626.7	622.0	616.1
32.5°	635.0	627.9	619.6	609.0	606.6	601.9	594.8	591.2	584.1	580.6	575.9
35°	585.3	580.6	572.3	564.1	560.5	558.1	552.2	545.1	540.4	536.9	534.5
37.5°	538.0	532.1	523.7	517.8	515.5	511.9	504.8	501.3	496.6	494.2	489.5
40°	487.1	481.2	475.3	471.7	468.2	465.8	461.1	457.6	452.8	449.3	448.1
42.5°	437.5	433.9	429.2	424.5	423.3	419.7	417.4	413.8	410.3	409.1	405.5
45°	392.5	389.0	384.3	379.5	378.4	376.0	374.8	371.3	368.9	368.9	368.9
47.5°	347.6	344.1	339.4	337.0	338.2	333.4	333.4	332.3	329.9	329.9	331.1
50°	307.4	302.7	301.5	299.2	296.8	294.4	295.6	292.1	292.1	294.4	293.3
52.5°	269.6	264.9	263.7	261.3	260.2	260.2	259.0	259.0	257.8	259.0	259.0
55°	235.3	231.8	229.4	227.1	225.9	225.9	225.9	224.7	223.5	225.9	227.1
57.5°	204.6	203.4	201.1	197.5	196.3	195.1	194.0	194.0	194.0	194.0	195.1
60°	177.4	174.9	172.6	169.0	169.0	167.8	166.7	165.5	165.5	165.5	165.5
62.5°	153.7	150.1	146.6	144.2	143.0	141.8	140.7	138.3	138.3	138.3	138.3
65°	130.0	126.5	124.1	121.7	119.4	119.4	117.0	115.8	113.5	112.3	109.9
67.5°	107.6	105.2	102.8	99.3	98.1	96.9	94.6	93.4	89.8	88.6	87.5
70°	87.5	83.9	81.6	79.2	78.0	75.6	73.3	70.9	68.6	66.2	63.8
72.5°	68.6	65.0	62.6	60.3	57.9	57.9	54.4	52.0	48.5	46.1	42.6
75°	50.8	47.3	44.9	41.4	40.2	39.0	35.5	33.1	29.6	26.0	23.6
77.5°	34.3	31.9	29.6	26.0	23.6	23.6	20.1	17.7	15.4	11.8	10.6
80°	21.3	18.9	16.5	14.2	14.2	11.8	10.6	8.3	5.9	4.7	3.5
82.5°	11.8	10.6	9.5	7.1	7.1	5.9	4.7	3.5	2.4	1.2	1.2
85°	5.9	4.7	3.5	3.5	2.4	2.4	2.4	1.2	1.2	0.0	0.0
87.5°	2.4	1.2	1.2	1.2	1.2	1.2	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°	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7
2.5°	883.3	883.3	882.1	882.1	882.1	880.8	882.1	880.8	880.8	880.8	882.1
5°	878.5	876.1	876.1	874.9	874.9	873.7	874.9	873.7	872.6	871.4	872.6
7.5°	869.0	866.6	865.5	864.3	864.3	864.3	863.1	861.9	863.1	859.6	861.9
10°	856.0	854.8	852.5	851.3	850.1	851.3	850.1	847.7	847.7	847.7	846.5
12.5°	839.5	837.1	835.9	834.7	832.4	832.4	833.5	831.2	831.2	828.8	828.8
15°	819.4	817.0	814.6	814.6	812.3	812.3	811.1	811.1	809.9	808.7	808.7
17.5°	794.5	791.0	788.6	789.8	788.6	787.4	787.4	785.1	783.9	785.1	785.1
20°	765.0	762.6	760.3	761.4	759.1	757.9	759.1	755.5	756.7	756.7	756.7
22.5°	731.9	730.7	727.2	727.2	724.8	723.6	724.8	724.8	726.0	724.8	724.8
25°	695.3	692.9	690.5	690.5	689.3	688.2	689.3	690.5	689.3	690.5	690.5
27.5°	656.2	652.7	652.7	650.3	650.3	651.5	650.3	651.5	652.7	652.7	655.1
30°	613.7	612.5	611.3	610.1	610.1	611.3	611.3	611.3	612.5	614.9	614.9
32.5°	573.5	571.1	568.8	568.8	571.1	570.0	571.1	571.1	573.5	573.5	575.9
35°	529.8	529.8	527.3	528.5	528.5	528.5	528.5	531.0	533.3	534.5	536.9
37.5°	489.5	485.9	487.1	487.1	488.3	487.1	490.6	490.6	493.0	493.0	495.4
40°	445.7	445.7	446.9	445.7	446.9	446.9	449.3	451.6	452.8	455.2	456.4
42.5°	404.4	406.7	404.4	405.5	406.7	407.9	409.1	410.3	415.0	417.4	420.9
45°	366.5	367.7	368.9	370.1	368.9	371.3	372.4	374.8	378.4	379.5	380.7
47.5°	329.9	331.1	332.3	333.4	333.4	335.8	337.0	339.4	341.7	342.9	344.1
50°	294.4	296.8	298.0	298.0	299.2	301.5	303.9	303.9	306.3	309.8	311.0
52.5°	262.5	262.5	264.9	266.1	267.3	267.3	270.8	272.0	273.2	275.5	277.9
55°	227.1	230.6	231.8	231.8	234.2	236.5	237.7	238.9	238.9	243.6	243.6
57.5°	196.3	197.5	199.9	199.9	199.9	203.4	203.4	205.8	207.0	208.2	210.5
60°	165.5	167.8	167.8	169.0	167.8	170.2	171.4	173.8	174.9	176.1	177.4
62.5°	137.1	137.1	138.3	138.3	138.3	138.3	140.7	140.7	143.0	144.2	145.4
65°	109.9	109.9	109.9	109.9	109.9	109.9	109.9	109.9	111.1	111.1	113.5
67.5°	85.1	83.9	81.6	82.7	81.6	81.6	80.4	80.4	81.6	81.6	83.9
70°	61.5	60.3	57.9	57.9	56.7	55.6	54.4	53.2	52.0	52.0	52.0
72.5°	40.2	37.8	34.3	33.1	33.1	30.7	28.4	27.2	27.2	27.2	27.2
75°	20.1	17.7	15.4	14.2	14.2	11.8	13.0	11.8	11.8	11.8	11.8
77.5°	8.3	5.9	4.7	4.7	4.7	3.5	3.5	3.5	3.5	3.5	3.5
80°	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
82.5°	1.2	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: P584038

CATALOG NUMBER: HC820D010-HM80520927-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	885.7	885.7	885.7	885.7	885.7	885.7	885.7	885.7
2.5°	880.8	880.8	878.5	879.6	879.6	879.6	879.6	879.6
5°	870.2	871.4	870.2	871.4	871.4	870.2	870.2	870.2
7.5°	859.6	860.7	859.6	860.7	860.7	860.7	859.6	859.6
10°	846.5	846.5	846.5	846.5	846.5	845.4	846.5	846.5
12.5°	828.8	828.8	828.8	830.0	830.0	828.8	828.8	827.6
15°	809.9	807.5	808.7	809.9	808.7	808.7	808.7	808.7
17.5°	783.9	785.1	783.9	783.9	783.9	783.9	785.1	783.9
20°	756.7	756.7	757.9	756.7	756.7	756.7	756.7	755.5
22.5°	726.0	724.8	724.8	726.0	726.0	724.8	726.0	726.0
25°	691.7	692.9	691.7	691.7	692.9	692.9	692.9	691.7
27.5°	655.1	656.2	657.4	656.2	656.2	656.2	657.4	658.6
30°	617.2	619.6	617.2	617.2	619.6	618.4	619.6	619.6
32.5°	577.1	580.6	578.2	580.6	580.6	581.8	580.6	581.8
35°	536.9	540.4	540.4	540.4	541.6	542.8	542.8	541.6
37.5°	498.9	500.1	500.1	502.5	503.7	504.8	504.8	503.7
40°	459.9	462.3	463.5	463.5	463.5	465.8	468.2	465.8
42.5°	422.1	423.3	424.5	424.5	426.8	428.0	429.2	429.2
45°	385.5	387.8	389.0	390.2	391.4	393.7	392.5	394.9
47.5°	347.6	351.2	352.4	353.5	355.9	357.1	358.3	359.4
50°	313.3	315.7	315.7	318.1	321.6	321.6	324.0	325.2
52.5°	279.1	280.3	281.4	282.6	285.0	287.3	287.3	289.7
55°	246.0	247.2	247.2	248.3	249.5	254.2	255.4	255.4
57.5°	211.7	211.7	214.1	215.2	216.4	218.8	218.8	218.8
60°	178.6	179.8	179.8	181.0	182.1	184.5	185.7	184.5
62.5°	145.4	146.6	146.6	147.8	150.1	151.3	150.1	150.1
65°	114.7	115.8	115.8	117.0	119.4	119.4	118.2	119.4
67.5°	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9
70°	53.2	52.0	50.8	52.0	52.0	52.0	50.8	53.2
72.5°	26.0	27.2	27.2	27.2	27.2	27.2	27.2	26.0
75°	11.8	11.8	10.6	10.6	10.6	11.8	11.8	10.6
77.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
80°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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)