

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: P583881

Luminaire Tested: **HC815D010-HM80520835-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583881  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC815D010-HM80520835-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1566.2 lumens  
Efficiency: N/A  
Efficacy: 111.9 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

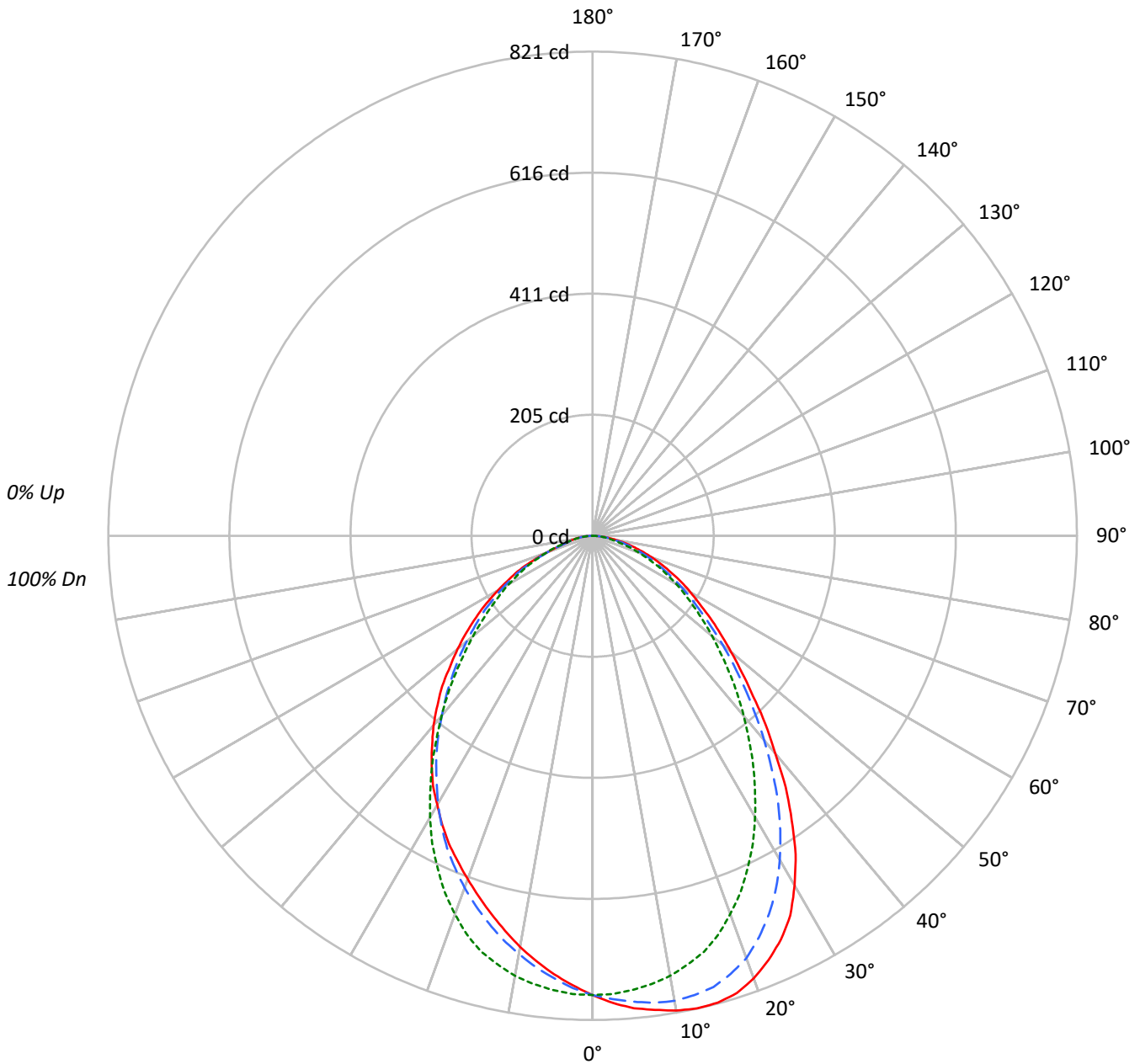
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65																			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57																			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50																			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45																			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40																			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37																			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30																			

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

	0°	90°	180°
0°	24015	24015	24015
5°	24893	23934	23110
10°	25598	23725	22166
15°	26165	23308	21188
20°	26210	22396	20329
25°	25705	21153	19611
30°	24380	19612	18750
35°	22154	17862	17904
40°	19370	16033	16874
45°	16790	14278	15730
50°	14699	12684	14329
55°	13086	11242	12962
60°	11804	10102	11391
65°	10653	8880	9923
70°	9575	7474	7375
75°	8447	5933	5540
80°	7068	4901	5310
85°	5484	4316	4706



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.5	4.7
10°-20°	206.9	13.2
20°-30°	295.7	18.9
30°-40°	314.2	20.1
40°-50°	270.5	17.3
50°-60°	202.3	12.9
60°-70°	129.0	8.2
70°-80°	58.7	3.7
80°-90°	15.4	1.0
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°	576.1	36.8
0°-40°	890.3	56.8
0°-60°	1363.1	87.0
0°-90°	1566.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1566.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	779	779	779	779	779	
5°	804	793	773	753	747	77
15°	820	792	730	680	664	231
25°	756	708	622	584	576	346
35°	588	548	474	462	476	366
45°	385	364	327	336	361	299
55°	243	223	209	227	241	219
65°	146	129	122	127	136	146
75°	71	61	50	45	46	75
85°	16	13	12	13	13	19
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°	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8
2.5°	793.1	790.8	792.0	790.8	792.0	792.0	789.8	789.8	789.8	789.8	786.5
5°	804.2	803.0	803.0	801.9	800.8	801.9	800.8	799.8	797.6	796.4	793.1
7.5°	810.8	810.8	810.8	810.8	809.8	808.6	807.5	805.3	803.0	800.8	798.7
10°	817.5	818.6	817.5	816.4	815.2	813.0	811.9	809.8	806.4	803.0	800.8
12.5°	820.7	820.7	819.6	819.6	817.5	816.4	813.0	809.8	806.4	803.0	797.6
15°	819.6	819.6	818.6	817.5	814.1	813.0	810.8	807.5	801.9	797.6	792.0
17.5°	813.0	811.9	809.8	809.8	805.3	804.2	801.9	797.6	792.0	785.4	778.8
20°	798.7	798.7	797.6	796.4	792.0	788.7	786.5	781.0	776.5	768.8	762.2
22.5°	778.8	781.0	778.8	776.5	771.0	769.9	766.6	759.9	753.2	744.4	736.7
25°	755.5	754.5	753.2	751.1	746.6	744.4	740.0	733.4	726.7	716.7	707.9
27.5°	725.7	721.2	721.2	716.7	713.5	710.1	707.9	701.3	692.4	684.7	673.6
30°	684.7	685.8	680.3	679.1	673.6	671.4	667.0	660.3	652.6	643.8	634.9
32.5°	640.5	637.2	637.2	632.7	628.3	625.0	623.8	616.1	609.5	600.7	591.8
35°	588.5	588.5	585.1	584.1	579.6	577.4	574.1	569.7	561.9	554.2	547.6
37.5°	537.6	535.4	534.3	532.0	528.8	525.4	525.4	517.7	516.6	507.7	498.9
40°	481.2	483.4	481.2	477.9	476.7	474.5	473.4	469.0	465.7	457.9	452.5
42.5°	433.6	431.4	431.4	430.3	425.8	425.8	423.7	421.4	416.0	413.7	407.0
45°	385.0	387.2	383.8	385.0	380.5	380.5	380.5	376.1	371.6	368.4	363.9
47.5°	342.9	344.0	344.0	340.7	339.6	339.6	337.4	335.1	331.9	327.4	324.1
50°	306.4	307.5	305.3	304.1	302.0	300.9	300.9	296.4	294.3	289.8	287.6
52.5°	273.2	273.2	272.1	272.1	268.8	268.8	266.5	263.3	261.0	258.8	253.3
55°	243.4	243.4	242.2	241.1	241.1	237.9	236.7	233.4	231.2	226.8	223.4
57.5°	214.6	215.7	214.6	213.5	212.4	211.2	209.1	205.7	203.5	200.3	198.0
60°	191.4	191.4	190.3	189.2	186.9	185.8	184.7	182.6	179.2	177.0	173.6
62.5°	169.2	168.1	167.0	165.9	163.8	163.8	161.5	159.3	155.9	153.8	151.6
65°	146.0	146.0	145.0	145.0	143.8	141.6	140.5	139.4	135.0	133.9	129.4
67.5°	125.0	126.0	123.9	123.9	121.7	121.7	120.6	117.2	116.2	114.0	111.7
70°	106.2	106.2	106.2	105.1	102.9	101.8	100.6	98.4	97.4	95.1	92.9
72.5°	87.4	87.4	86.3	86.3	85.2	84.1	82.9	80.7	80.7	78.6	76.3
75°	70.9	70.9	69.6	68.6	67.5	67.5	66.4	65.3	63.0	61.9	60.9
77.5°	54.2	54.2	54.2	53.1	51.9	51.9	51.9	49.8	47.6	47.6	46.5
80°	39.8	39.8	38.7	38.7	37.6	37.6	37.6	36.5	35.4	34.3	33.1
82.5°	26.5	26.5	26.5	26.5	25.4	25.4	25.4	24.3	23.3	23.3	23.3
85°	15.5	15.5	15.5	15.5	14.3	14.3	14.3	14.3	14.3	13.3	13.3
87.5°	6.6	5.5	6.6	5.5	6.6	5.5	6.6	5.5	5.5	5.5	5.5
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°	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8
2.5°	787.6	786.5	785.4	784.2	784.2	783.1	781.0	779.9	778.8	777.6	777.6
5°	792.0	790.8	788.7	786.5	785.4	783.1	781.0	778.8	776.5	773.2	772.0
7.5°	795.3	792.0	789.8	785.4	784.2	782.0	778.8	775.4	771.0	766.6	763.2
10°	795.3	790.8	787.6	782.0	779.9	777.6	773.2	767.7	762.2	757.7	752.2
12.5°	793.1	787.6	782.0	776.5	773.2	769.9	763.2	757.7	751.1	744.4	740.0
15°	785.4	778.8	772.0	765.4	762.2	757.7	751.1	743.4	736.7	730.1	722.3
17.5°	771.0	764.3	756.6	748.9	744.4	741.1	731.2	725.7	715.6	709.0	702.4
20°	752.2	744.4	734.4	726.7	721.2	717.9	710.1	700.2	692.4	682.5	675.9
22.5°	727.8	717.9	707.9	700.2	694.7	690.2	680.3	670.3	663.7	654.8	647.1
25°	699.1	689.1	679.1	668.2	662.6	658.2	649.3	640.5	631.7	621.7	615.0
27.5°	664.8	653.7	644.9	634.9	629.4	622.7	612.9	603.9	595.1	588.5	579.6
30°	627.2	615.0	606.1	596.2	590.7	585.1	575.1	566.4	558.6	550.8	546.5
32.5°	581.9	573.0	564.2	554.2	549.7	546.5	536.5	527.7	518.8	512.1	508.9
35°	538.8	528.8	521.0	512.1	506.6	503.3	494.4	486.7	482.2	474.5	470.1
37.5°	493.3	485.6	476.7	467.9	464.5	461.3	454.6	446.9	440.3	434.8	432.5
40°	445.7	439.1	431.4	425.8	422.6	419.2	413.7	408.1	403.8	398.3	396.0
42.5°	400.4	396.0	389.3	382.7	379.5	378.2	371.6	367.3	365.0	362.8	360.7
45°	359.5	352.8	348.5	344.0	340.7	338.5	335.1	331.9	329.7	327.4	325.2
47.5°	319.7	314.1	309.7	306.4	303.1	302.0	299.8	296.4	294.3	294.3	294.3
50°	283.2	278.7	274.4	272.1	271.0	268.8	266.5	265.5	264.4	264.4	264.4
52.5°	251.1	246.7	243.4	241.1	241.1	239.0	236.7	235.6	235.6	235.6	235.6
55°	221.2	217.9	215.7	213.5	211.2	210.2	210.2	210.2	209.1	209.1	210.2
57.5°	194.7	192.4	189.2	186.9	185.8	185.8	184.7	183.6	184.7	185.8	186.9
60°	170.4	168.1	167.0	163.8	163.8	163.8	162.6	162.6	162.6	163.8	164.8
62.5°	148.2	147.1	145.0	143.8	142.7	142.7	141.6	141.6	141.6	141.6	142.7
65°	128.3	126.0	123.9	123.9	123.9	122.8	122.8	120.6	121.7	121.7	120.6
67.5°	109.5	107.2	106.2	105.1	104.0	104.0	102.9	101.8	100.6	100.6	100.6
70°	91.8	89.7	89.7	87.4	87.4	86.3	85.2	85.2	84.1	82.9	81.8
72.5°	74.1	73.0	71.9	70.9	70.9	70.9	69.6	68.6	67.5	66.4	64.1
75°	58.7	58.7	56.4	55.3	55.3	54.2	53.1	51.9	50.9	49.8	48.7
77.5°	45.3	44.2	42.1	41.0	41.0	41.0	39.8	38.7	37.6	36.5	35.4
80°	33.1	32.1	31.0	29.9	29.9	29.9	28.8	28.8	27.6	27.6	27.6
82.5°	22.2	22.2	21.0	21.0	21.0	21.0	19.9	19.9	19.9	19.9	19.9
85°	13.3	13.3	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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°	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8
2.5°	775.4	775.4	773.2	772.0	771.0	772.0	769.9	768.8	767.7	767.7	766.6
5°	768.8	767.7	763.2	762.2	761.1	759.9	757.7	755.5	753.2	752.2	751.1
7.5°	759.9	756.6	752.2	751.1	750.0	746.6	743.4	741.1	737.8	736.7	734.4
10°	747.7	743.4	740.0	736.7	734.4	731.2	727.8	724.6	720.1	719.0	715.6
12.5°	733.4	727.8	721.2	720.1	716.7	712.4	707.9	704.6	701.3	699.1	695.8
15°	715.6	710.1	703.5	700.2	696.9	693.6	688.1	683.6	680.3	677.0	673.6
17.5°	694.7	688.1	682.5	679.1	677.0	671.4	667.0	661.4	658.2	654.8	651.5
20°	669.3	663.7	656.0	652.6	651.5	647.1	641.5	639.4	634.9	631.7	629.4
22.5°	640.5	634.9	628.3	626.1	621.7	619.5	613.9	611.7	609.5	606.1	605.0
25°	608.4	602.9	597.3	596.2	592.9	590.7	587.3	584.1	584.1	580.7	580.7
27.5°	575.1	569.7	565.3	563.0	561.9	559.7	556.3	555.3	554.2	553.1	553.1
30°	539.8	533.2	530.9	529.8	528.8	526.6	525.4	523.2	524.3	525.4	524.3
32.5°	502.2	500.0	495.6	493.3	494.4	493.3	491.2	493.3	492.2	494.4	495.6
35°	465.7	463.4	461.3	461.3	459.1	459.1	459.1	460.2	462.4	463.4	465.7
37.5°	430.3	426.9	425.8	424.8	425.8	425.8	425.8	428.1	430.3	432.5	435.8
40°	392.7	390.4	390.4	390.4	390.4	393.8	392.7	394.9	397.2	400.4	403.8
42.5°	357.3	357.3	358.4	358.4	358.4	358.4	360.7	363.9	367.3	370.5	373.9
45°	324.1	324.1	324.1	326.3	326.3	327.4	331.9	334.0	336.3	339.6	342.9
47.5°	293.2	293.2	294.3	295.3	296.4	298.7	300.9	304.1	307.5	309.7	313.1
50°	264.4	265.5	267.6	269.9	269.9	271.0	274.4	276.5	278.7	282.1	283.2
52.5°	236.7	239.0	241.1	242.2	243.4	245.6	246.7	250.0	251.1	254.4	255.6
55°	211.2	212.4	215.7	216.8	216.8	219.1	221.2	223.4	226.8	226.8	229.0
57.5°	188.1	189.2	191.4	192.4	191.4	194.7	195.8	198.0	199.1	201.4	202.4
60°	164.8	167.0	168.1	168.1	169.2	170.4	172.6	172.6	174.7	177.0	177.0
62.5°	142.7	143.8	145.0	146.0	147.1	146.0	149.3	149.3	151.6	152.7	154.8
65°	121.7	122.8	122.8	123.9	123.9	125.0	125.0	126.0	127.2	129.4	130.5
67.5°	100.6	100.6	100.6	101.8	100.6	101.8	101.8	102.9	102.9	105.1	106.2
70°	81.8	80.7	79.7	79.7	79.7	79.7	78.6	79.7	79.7	80.7	80.7
72.5°	63.0	61.9	60.9	59.8	59.8	58.7	57.5	58.7	58.7	59.8	59.8
75°	47.6	45.3	45.3	45.3	44.2	44.2	44.2	45.3	45.3	45.3	46.5
77.5°	35.4	35.4	34.3	34.3	34.3	35.4	35.4	36.5	36.5	36.5	36.5
80°	26.5	27.6	27.6	27.6	27.6	28.8	28.8	28.8	28.8	29.9	29.9
82.5°	19.9	19.9	19.9	19.9	21.0	21.0	21.0	21.0	21.0	21.0	21.0
85°	12.2	13.3	13.3	12.2	13.3	13.3	13.3	13.3	13.3	13.3	13.3
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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: P583881

CATALOG NUMBER: HC815D010-HM80520835-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	778.8	778.8	778.8	778.8	778.8	778.8	778.8	778.8
2.5°	765.4	765.4	765.4	765.4	764.3	764.3	764.3	763.2
5°	748.9	748.9	748.9	746.6	747.7	747.7	745.5	746.6
7.5°	732.3	731.2	730.1	730.1	728.9	727.8	726.7	727.8
10°	713.5	710.1	710.1	709.0	709.0	706.9	706.9	707.9
12.5°	692.4	690.2	690.2	689.1	688.1	687.0	685.8	685.8
15°	671.4	669.3	668.2	667.0	665.9	663.7	664.8	663.7
17.5°	650.5	647.1	647.1	646.0	644.9	642.6	642.6	641.5
20°	626.1	625.0	622.7	623.8	622.7	620.6	619.5	619.5
22.5°	601.8	601.8	600.7	600.7	599.5	598.4	597.3	597.3
25°	578.5	577.4	578.5	578.5	575.1	575.1	575.1	576.4
27.5°	552.0	553.1	552.0	552.0	552.0	552.0	553.1	552.0
30°	525.4	525.4	525.4	526.6	528.8	527.7	527.7	526.6
32.5°	496.7	497.8	497.8	498.9	500.0	502.2	502.2	503.3
35°	467.9	470.1	471.3	470.1	473.4	473.4	475.6	475.6
37.5°	438.0	439.1	441.4	442.5	444.6	445.7	446.9	446.9
40°	406.0	410.4	411.5	412.6	416.0	416.0	417.1	419.2
42.5°	376.1	380.5	381.6	382.7	385.0	388.3	387.2	389.3
45°	347.3	350.7	351.7	352.8	356.2	357.3	357.3	360.7
47.5°	316.3	318.6	319.7	321.9	324.1	326.3	328.5	327.4
50°	285.3	288.7	290.9	292.0	295.3	296.4	297.5	298.7
52.5°	257.7	259.9	261.0	262.2	265.5	266.5	267.6	269.9
55°	231.2	232.3	234.5	233.4	236.7	237.9	239.0	241.1
57.5°	204.6	205.7	206.9	206.9	209.1	211.2	212.4	213.5
60°	179.2	181.4	182.6	182.6	182.6	184.7	184.7	184.7
62.5°	155.9	155.9	157.1	157.1	159.3	159.3	159.3	159.3
65°	131.6	132.8	133.9	133.9	136.0	135.0	137.1	136.0
67.5°	106.2	106.2	108.4	108.4	107.2	108.4	108.4	108.4
70°	80.7	80.7	81.8	81.8	81.8	81.8	81.8	81.8
72.5°	59.8	59.8	59.8	60.9	59.8	59.8	60.9	59.8
75°	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5
77.5°	36.5	36.5	37.6	37.6	37.6	37.6	37.6	37.6
80°	29.9	29.9	29.9	29.9	31.0	29.9	29.9	29.9
82.5°	22.2	21.0	22.2	21.0	22.2	22.2	22.2	22.2
85°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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)