

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: P583845

Luminaire Tested: **HC815D010-HM80520827-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583845  
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-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: 1332.0 lumens  
Efficiency: N/A  
Efficacy: 95.1 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

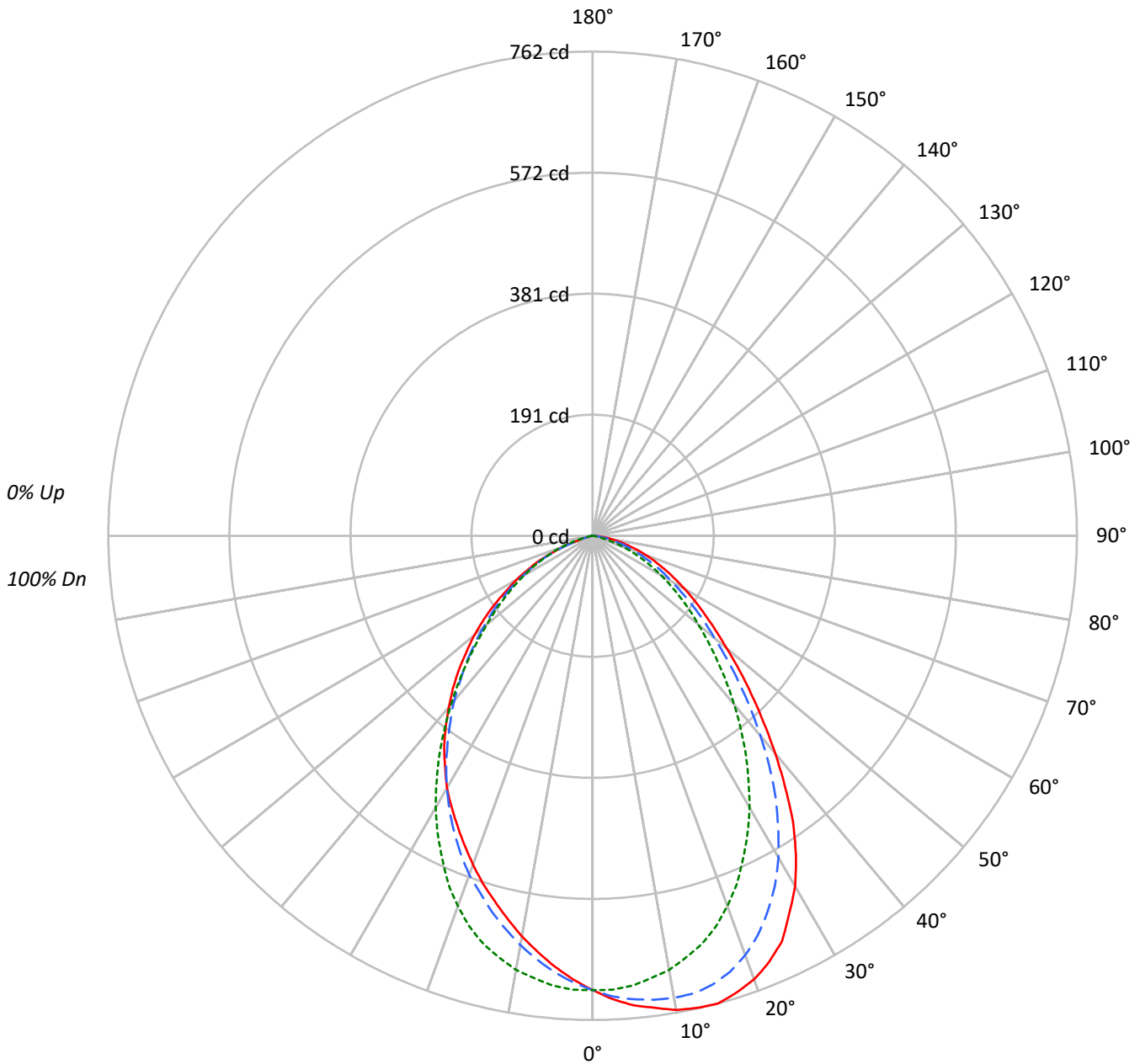
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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°	22048	22048	22048
5°	22962	22002	21074
10°	23728	21721	20046
15°	24333	21223	19008
20°	24379	20345	18062
25°	23967	19057	17128
30°	22685	17583	16326
35°	20682	15814	15332
40°	17985	13940	14153
45°	15429	12071	12961
50°	13178	10410	11643
55°	11553	8967	10113
60°	10287	7647	8505
65°	9128	6246	6786
70°	8096	4625	3859
75°	6743	2431	1144
80°	5310	746	195
85°	3786	389	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.4	5.1
10°-20°	188.9	14.2
20°-30°	267.3	20.1
30°-40°	279.7	21.0
40°-50°	233.2	17.5
50°-60°	165.4	12.4
60°-70°	95.3	7.2
70°-80°	30.7	2.3
80°-90°	4.2	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°	523.5	39.3
0°-40°	803.2	60.3
0°-60°	1201.8	90.2
0°-90°	1332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1332.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	715	715	715	715	715	
5°	742	732	711	689	681	71
15°	762	731	665	612	595	214
25°	704	652	560	515	503	321
35°	549	501	420	398	407	341
45°	354	325	277	280	297	274
55°	215	192	167	175	188	194
65°	125	105	86	86	93	125
75°	57	42	20	10	10	61
85°	11	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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	730.1	729.0	727.9	729.0	727.9	729.0	727.9	727.9	726.9	725.8	725.8
5°	741.8	740.7	740.7	740.7	739.6	738.5	738.5	737.6	735.4	734.3	732.2
7.5°	749.3	750.4	750.4	750.4	748.2	748.2	746.1	744.0	741.8	739.6	736.5
10°	757.8	757.8	756.7	755.7	753.6	752.5	751.4	749.3	746.1	741.8	738.5
12.5°	761.1	761.1	760.0	757.8	756.7	755.7	754.7	751.4	747.1	741.8	737.6
15°	762.2	760.0	758.9	757.8	755.7	752.5	752.5	748.2	742.9	736.5	731.1
17.5°	753.6	754.7	752.5	750.4	747.1	745.1	741.8	738.5	732.2	724.7	719.4
20°	742.9	741.8	740.7	737.6	733.2	732.2	729.0	723.6	718.3	709.7	702.3
22.5°	725.8	724.7	722.5	720.5	716.1	714.0	710.8	704.4	697.0	688.4	679.9
25°	704.4	702.3	699.0	694.8	691.5	689.4	685.2	678.8	670.2	660.6	652.0
27.5°	670.2	673.4	671.3	664.8	661.7	657.3	656.2	647.7	640.2	630.7	621.1
30°	637.1	637.1	633.8	630.7	625.3	622.1	617.8	611.4	603.9	592.1	584.7
32.5°	595.4	594.3	590.0	589.0	584.7	578.3	577.2	568.6	561.2	552.6	543.0
35°	549.4	547.3	543.0	539.8	537.7	534.4	531.3	523.8	516.2	507.7	501.3
37.5°	497.1	497.1	496.0	490.7	488.5	486.3	483.1	475.6	471.4	462.8	456.5
40°	446.8	445.7	442.5	441.4	439.3	436.1	433.9	429.7	423.3	416.8	410.4
42.5°	397.7	398.7	394.4	395.5	391.3	389.1	388.0	381.6	378.4	372.0	366.7
45°	353.8	352.7	350.7	349.6	347.4	345.2	343.1	339.9	334.5	328.1	325.0
47.5°	313.2	309.9	309.9	309.0	307.9	303.5	302.5	299.3	296.1	289.7	285.3
50°	274.7	274.7	274.7	273.7	270.4	269.3	267.3	264.0	260.8	256.5	250.2
52.5°	243.7	243.7	243.7	242.7	238.3	237.3	236.2	232.0	227.6	224.5	220.2
55°	214.9	215.9	214.9	212.7	209.5	209.5	206.3	204.1	199.9	196.7	192.4
57.5°	190.3	190.3	188.1	187.0	185.0	183.9	181.7	179.5	174.2	171.0	165.7
60°	166.8	165.7	165.7	163.5	161.3	159.3	158.2	155.0	152.8	147.5	143.3
62.5°	145.3	145.3	143.3	143.3	138.9	138.9	137.9	134.7	131.5	126.2	124.0
65°	125.1	125.1	124.0	122.9	119.7	118.7	117.6	114.4	111.2	108.0	104.7
67.5°	106.9	106.9	104.7	103.6	101.6	100.5	98.3	96.2	93.0	89.8	86.6
70°	89.8	88.7	87.6	86.6	84.5	83.4	81.2	79.0	75.9	73.7	70.5
72.5°	72.7	72.7	71.6	69.5	68.4	67.4	66.3	64.1	61.0	57.7	55.6
75°	56.6	56.6	56.6	54.5	52.4	51.3	51.3	49.2	47.0	43.9	41.7
77.5°	43.9	42.8	41.7	41.7	39.5	38.4	37.4	36.4	33.1	32.1	29.9
80°	29.9	31.0	29.9	28.9	27.8	26.8	26.8	24.6	23.5	21.3	19.3
82.5°	20.4	19.3	19.3	18.2	18.2	17.1	17.1	14.9	13.9	12.8	11.8
85°	10.7	10.7	9.6	9.6	9.6	8.6	8.6	7.5	7.5	6.4	5.3
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.2	2.2	2.2
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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	724.7	722.5	721.6	721.6	720.5	719.4	718.3	717.2	715.0	715.0	713.0
5°	730.1	727.9	726.9	723.6	721.6	721.6	717.2	716.1	713.0	710.8	708.7
7.5°	734.3	730.1	726.9	723.6	721.6	719.4	715.0	710.8	706.5	702.3	700.1
10°	734.3	730.1	724.7	719.4	717.2	715.0	709.7	703.4	697.9	693.7	688.4
12.5°	732.2	725.8	719.4	715.0	710.8	707.6	701.2	694.8	688.4	679.9	675.5
15°	725.8	717.2	710.8	703.4	700.1	694.8	689.4	679.9	672.4	664.8	659.5
17.5°	713.0	702.3	694.8	687.3	681.9	678.8	670.2	661.7	653.1	644.6	638.2
20°	693.7	684.1	675.5	665.9	661.7	657.3	646.7	638.2	629.6	620.0	613.6
22.5°	670.2	660.6	648.8	641.3	634.9	629.6	620.0	610.3	601.8	593.2	584.7
25°	641.3	631.7	621.1	609.2	605.0	599.6	589.0	579.4	569.7	560.1	552.6
27.5°	610.3	597.6	589.0	576.1	571.9	566.5	554.8	544.1	535.5	528.0	519.5
30°	573.0	563.3	551.5	539.8	535.5	530.2	520.6	510.9	502.4	493.8	485.3
32.5°	532.2	522.7	510.9	502.4	496.0	491.6	482.1	473.6	465.0	456.5	449.0
35°	489.6	478.9	470.3	461.8	456.5	451.0	441.4	433.9	427.5	420.1	412.6
37.5°	445.7	438.3	429.7	420.1	414.8	410.4	403.0	394.4	389.1	382.7	377.3
40°	403.0	394.4	386.9	378.4	374.2	370.9	363.4	357.0	351.6	346.3	343.1
42.5°	359.1	351.6	344.1	338.8	335.6	332.5	327.0	319.6	316.4	311.0	307.9
45°	318.5	312.1	306.8	299.3	297.2	295.0	288.6	283.3	280.0	276.8	274.7
47.5°	280.0	275.8	269.3	265.1	261.8	259.8	255.5	251.2	248.0	245.8	243.7
50°	246.9	241.6	237.3	233.0	230.9	227.6	223.4	221.2	219.1	217.0	217.0
52.5°	215.9	210.5	206.3	203.0	201.0	198.8	195.6	194.5	192.4	192.4	191.4
55°	187.0	183.9	179.5	175.3	174.2	173.2	171.0	168.9	167.9	166.8	167.9
57.5°	162.4	159.3	155.0	151.8	150.7	149.7	148.6	146.4	145.3	145.3	145.3
60°	140.0	136.8	133.6	130.4	130.4	128.2	127.2	126.2	125.1	124.0	124.0
62.5°	119.7	116.5	113.3	111.2	110.1	109.1	106.9	105.8	104.7	104.7	103.6
65°	101.6	97.2	96.2	93.0	91.9	90.9	89.8	87.6	86.6	85.6	84.5
67.5°	83.4	81.2	78.1	75.9	74.8	73.7	72.7	70.5	69.5	68.4	66.3
70°	67.4	65.2	63.0	61.0	59.9	58.8	56.6	54.5	53.5	51.3	48.1
72.5°	52.4	50.2	48.1	45.9	44.9	43.9	41.7	39.5	37.4	35.3	33.1
75°	39.5	37.4	34.2	32.1	31.0	31.0	27.8	25.7	23.5	20.4	18.2
77.5°	27.8	24.6	23.5	21.3	20.4	18.2	16.0	13.9	11.8	10.7	8.6
80°	18.2	16.0	13.9	12.8	11.8	10.7	9.6	7.5	5.3	4.2	3.3
82.5°	10.7	9.6	8.6	7.5	6.4	5.3	4.2	4.2	3.3	2.2	1.1
85°	5.3	4.2	3.3	3.3	2.2	2.2	2.2	1.1	1.1	1.1	1.1
87.5°	2.2	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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	711.9	710.8	709.7	708.7	708.7	706.5	706.5	705.4	703.4	702.3	702.3
5°	705.4	702.3	700.1	699.0	697.9	694.8	693.7	691.5	689.4	687.3	686.2
7.5°	695.9	690.5	688.4	687.3	684.1	680.8	678.8	675.5	672.4	669.1	668.1
10°	684.1	678.8	673.4	671.3	668.1	665.9	661.7	657.3	654.2	650.9	647.7
12.5°	669.1	662.8	657.3	655.3	652.0	647.7	641.3	639.3	633.8	631.7	627.4
15°	652.0	644.6	639.3	636.0	632.7	626.4	622.1	617.8	612.5	610.3	606.1
17.5°	630.7	622.1	616.7	613.6	611.4	606.1	599.6	594.3	589.0	586.8	583.6
20°	605.0	599.6	592.1	589.0	586.8	580.4	573.9	571.9	567.6	563.3	560.1
22.5°	576.1	570.8	563.3	560.1	559.0	553.7	548.4	545.1	541.9	538.8	535.5
25°	546.2	539.8	533.3	531.3	529.1	524.8	520.6	518.4	515.3	513.1	510.9
27.5°	514.2	507.7	502.4	499.1	497.1	493.8	491.6	489.6	487.4	485.3	484.2
30°	480.0	473.6	469.2	467.1	465.0	463.9	460.7	459.6	458.5	456.5	457.5
32.5°	445.7	440.4	436.1	433.0	433.0	430.8	429.7	429.7	428.6	428.6	428.6
35°	408.4	405.1	401.9	400.8	399.8	398.7	397.7	398.7	397.7	398.7	399.8
37.5°	374.2	370.9	368.7	367.6	366.7	367.6	366.7	366.7	367.6	369.8	370.9
40°	338.8	336.7	334.5	335.6	334.5	334.5	334.5	337.8	338.8	339.9	341.0
42.5°	305.7	303.5	302.5	302.5	303.5	302.5	304.6	305.7	307.9	311.0	313.2
45°	273.7	272.6	272.6	273.7	272.6	274.7	274.7	276.8	280.0	282.2	284.4
47.5°	243.7	243.7	243.7	244.7	244.7	245.8	248.0	249.1	251.2	253.3	255.5
50°	215.9	217.0	218.1	218.1	218.1	220.2	222.3	223.4	224.5	225.6	228.7
52.5°	191.4	192.4	192.4	193.5	194.5	195.6	196.7	198.8	199.9	202.1	203.0
55°	167.9	167.9	169.9	171.0	171.0	171.0	173.2	173.2	175.3	176.4	178.5
57.5°	145.3	146.4	146.4	147.5	147.5	148.6	149.7	150.7	151.8	152.8	153.9
60°	124.0	124.0	124.0	125.1	126.2	127.2	126.2	128.2	128.2	130.4	131.5
62.5°	103.6	104.7	104.7	104.7	104.7	104.7	104.7	105.8	106.9	108.0	109.1
65°	84.5	84.5	84.5	83.4	84.5	83.4	84.5	85.6	85.6	86.6	87.6
67.5°	65.2	65.2	63.0	63.0	64.1	64.1	64.1	64.1	63.0	65.2	65.2
70°	47.0	45.9	44.9	43.9	43.9	42.8	42.8	41.7	41.7	41.7	41.7
72.5°	31.0	28.9	26.8	25.7	24.6	24.6	22.4	21.3	22.4	22.4	22.4
75°	16.0	13.9	12.8	11.8	10.7	10.7	9.6	9.6	9.6	9.6	9.6
77.5°	6.4	5.3	4.2	4.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3
80°	2.2	2.2	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





TEST NUMBER: P583845

CATALOG NUMBER: HC815D010-HM80520827-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	701.2	701.2	700.1	701.2	699.0	700.1	699.0	699.0
5°	685.2	683.0	683.0	683.0	681.9	681.9	680.8	680.8
7.5°	665.9	664.8	663.8	662.8	661.7	660.6	660.6	660.6
10°	646.7	644.6	644.6	643.5	641.3	640.2	640.2	640.2
12.5°	624.2	623.1	622.1	622.1	617.8	618.9	617.8	617.8
15°	602.9	601.8	601.8	598.5	596.5	596.5	596.5	595.4
17.5°	580.4	579.4	578.3	576.1	573.9	573.9	573.0	573.9
20°	557.0	555.9	553.7	553.7	552.6	551.5	549.4	550.4
22.5°	533.3	531.3	530.2	530.2	529.1	529.1	526.9	526.9
25°	508.8	507.7	506.7	507.7	505.6	505.6	503.4	503.4
27.5°	483.1	482.1	482.1	482.1	481.0	482.1	481.0	481.0
30°	457.5	457.5	456.5	456.5	457.5	456.5	457.5	458.5
32.5°	429.7	429.7	430.8	430.8	431.9	431.9	431.9	431.9
35°	400.8	403.0	403.0	404.0	405.1	406.2	406.2	407.3
37.5°	374.2	375.2	376.2	377.3	379.5	379.5	379.5	379.5
40°	345.2	346.3	348.5	347.4	351.6	352.7	351.6	351.6
42.5°	315.3	317.5	318.5	320.7	321.7	323.9	325.0	325.0
45°	287.5	288.6	290.8	292.9	293.9	297.2	297.2	297.2
47.5°	258.7	260.8	261.8	264.0	265.1	268.2	269.3	268.2
50°	230.9	233.0	235.1	235.1	238.3	239.4	241.6	242.7
52.5°	204.1	205.2	207.4	208.5	210.5	212.7	213.8	214.9
55°	178.5	179.5	181.7	181.7	185.0	185.9	188.1	188.1
57.5°	155.0	156.0	158.2	157.1	159.3	161.3	161.3	160.4
60°	132.6	132.6	132.6	134.7	135.8	136.8	137.9	137.9
62.5°	109.1	111.2	112.2	112.2	113.3	114.4	114.4	113.3
65°	87.6	89.8	90.9	90.9	91.9	91.9	91.9	93.0
67.5°	66.3	66.3	66.3	67.4	66.3	66.3	66.3	66.3
70°	41.7	41.7	41.7	41.7	40.6	41.7	41.7	42.8
72.5°	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
75°	9.6	9.6	9.6	10.7	9.6	9.6	9.6	9.6
77.5°	4.2	3.3	4.2	4.2	3.3	3.3	3.3	3.3
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)