

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P843475

Luminaire Tested: **LD4C20DE010B40 EU4C20B40 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843475
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER
Issue Date: 5/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20DE010B40 EU4C20B40 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

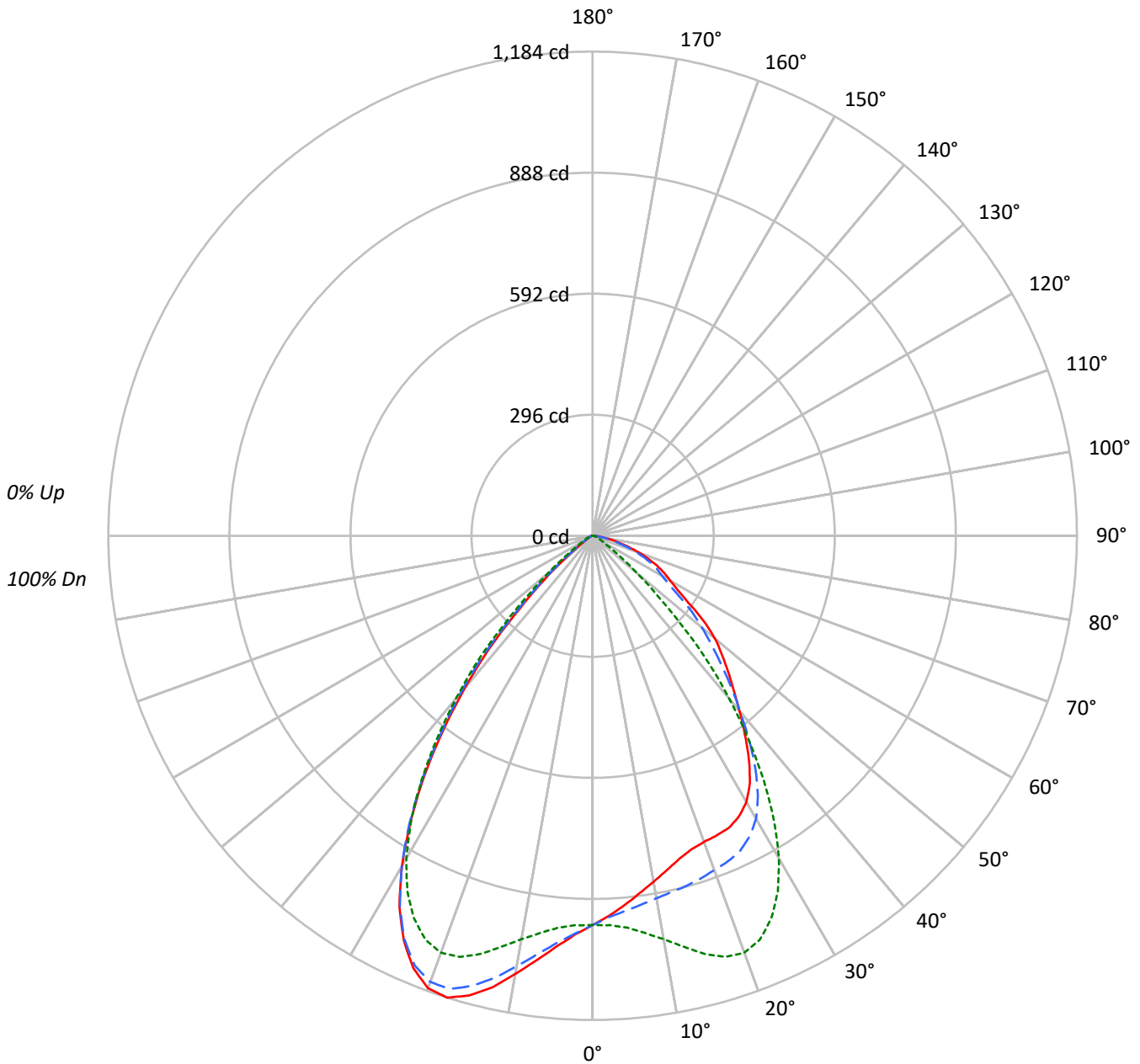
Lumens per Lamp: N/A
Luminaire Lumens: 1756.7 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
Input Voltage (V):
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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80																			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72																			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64																			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48																			
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44																			
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	116957	116957	116957
5°	111730	118624	124297
10°	107122	124961	135664
15°	104014	134679	147957
20°	104146	141838	153865
25°	106803	140000	148079
30°	106664	129219	132227
35°	99899	109228	107728
40°	89489	83314	77733
45°	81189	52904	43401
50°	74597	26853	18539
55°	61236	11973	6126
60°	53736	6732	3342
65°	50581	5029	2529
70°	43319	4023	2227
75°	33037	2943	1756
80°	23701	1698	920
85°	17479	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	5.3
10°-20°	288.2	16.4
20°-30°	445.9	25.4
30°-40°	439.3	25.0
40°-50°	269.8	15.4
50°-60°	120.0	6.8
60°-70°	67.0	3.8
70°-80°	29.0	1.7
80°-90°	5.2	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°	826.5	47.1
0°-40°	1265.8	72.1
0°-60°	1655.6	94.2
0°-90°	1756.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1756.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	952	952	952	952	952	
5°	906	921	962	999	1008	85
15°	818	886	1059	1140	1163	232
25°	788	851	1033	1089	1092	362
35°	666	694	728	726	718	413
45°	467	444	304	266	250	362
55°	286	258	56	32	29	263
65°	174	157	17	10	9	170
75°	70	60	6	4	4	77
85°	12	10	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°	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0
2.5°	929.6	929.6	929.6	929.6	932.1	928.4	932.1	932.1	935.8	937.1	933.4
5°	906.0	904.8	906.0	906.0	908.4	907.2	910.9	913.4	918.4	920.9	920.9
7.5°	881.1	881.1	881.1	883.7	887.4	886.1	889.8	893.6	901.0	906.0	909.7
10°	858.7	857.5	861.2	862.5	866.2	866.2	872.4	876.1	884.8	894.9	899.8
12.5°	837.6	836.4	838.9	842.6	848.9	848.9	853.7	860.0	872.4	883.7	892.3
15°	817.8	819.0	822.7	825.2	832.7	832.7	838.9	846.3	860.0	873.7	886.1
17.5°	804.0	805.3	807.8	811.5	819.0	819.0	825.2	833.9	848.9	863.7	878.7
20°	796.6	797.9	800.3	804.0	810.3	811.5	816.5	826.4	840.1	856.3	869.9
22.5°	792.9	795.4	797.9	800.3	806.6	806.6	812.8	820.2	833.9	850.1	862.5
25°	787.9	790.4	791.6	795.4	800.3	800.3	804.0	812.8	825.2	838.9	851.3
27.5°	774.3	776.7	778.0	781.7	786.7	785.4	790.4	796.6	807.8	820.2	830.1
30°	751.9	753.1	755.6	756.8	760.5	760.5	764.2	770.5	778.0	789.2	799.1
32.5°	715.8	718.3	719.6	720.8	724.6	723.3	724.6	728.3	735.7	745.6	751.9
35°	666.1	671.1	671.1	673.6	674.9	673.6	673.6	678.6	682.3	689.8	693.5
37.5°	611.4	615.2	614.0	616.4	617.7	614.0	616.4	617.7	622.6	626.3	627.6
40°	558.0	559.3	559.3	559.3	559.3	558.0	559.3	560.4	564.2	564.2	560.4
42.5°	509.6	510.8	510.8	508.3	510.8	509.6	509.6	509.6	509.6	504.6	500.8
45°	467.3	468.5	468.5	467.3	467.3	464.8	463.6	462.3	458.6	452.3	443.7
47.5°	427.5	429.9	431.2	428.8	427.5	425.1	425.1	417.6	412.6	405.2	392.7
50°	390.3	392.7	392.7	390.3	390.3	386.5	382.8	380.2	372.8	364.1	349.2
52.5°	343.0	346.7	346.7	345.5	345.5	340.6	339.3	334.3	328.1	318.1	305.8
55°	285.9	290.8	289.6	288.3	285.9	285.9	285.9	282.1	278.4	270.9	258.5
57.5°	244.8	246.1	246.1	244.8	244.8	242.3	242.3	238.6	237.3	229.9	220.0
60°	218.7	218.7	220.0	218.7	217.4	216.2	215.0	212.5	208.8	203.8	196.4
62.5°	197.6	198.8	198.8	197.6	196.4	195.1	193.9	191.4	188.9	185.2	177.7
65°	174.0	176.4	175.2	174.0	172.7	171.4	171.4	169.0	166.5	164.0	156.6
67.5°	147.9	149.1	150.4	147.9	147.9	146.7	146.7	144.2	142.9	137.9	132.9
70°	120.6	121.7	121.7	120.6	120.6	119.3	119.3	118.0	116.8	113.1	108.1
72.5°	94.4	95.7	94.4	93.2	93.2	93.2	92.0	90.7	89.5	87.0	83.2
75°	69.6	69.6	70.9	69.6	68.3	68.3	67.1	67.1	64.6	63.4	59.7
77.5°	49.7	51.0	49.7	49.7	48.4	47.3	47.3	46.0	46.0	44.7	42.3
80°	33.5	33.5	34.8	33.5	32.4	33.5	32.4	31.1	31.1	29.8	27.4
82.5°	21.2	22.3	21.2	21.2	21.2	21.2	21.2	19.9	19.9	18.6	17.3
85°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	11.2	11.2	11.2	9.9
87.5°	6.2	6.2	5.0	5.0	6.2	6.2	6.2	5.0	5.0	5.0	5.0
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°	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0
2.5°	938.3	939.5	942.0	945.7	945.7	943.3	949.5	949.5	952.0	953.2	958.2
5°	928.4	930.8	935.8	942.0	943.3	942.0	950.7	954.5	958.2	961.9	969.3
7.5°	919.6	924.6	933.4	942.0	945.7	945.7	959.4	964.4	971.9	979.3	988.0
10°	914.6	922.2	934.5	948.3	952.0	955.7	971.9	981.8	991.7	1001.7	1014.1
12.5°	908.4	922.2	938.3	955.7	963.1	968.1	990.5	1003.0	1016.6	1029.0	1045.2
15°	907.2	923.4	944.6	966.9	976.8	984.2	1009.2	1026.5	1042.7	1058.9	1075.0
17.5°	902.3	922.2	948.3	973.1	985.5	995.4	1024.0	1045.2	1063.9	1079.9	1098.7
20°	896.0	918.4	947.0	974.3	988.0	998.0	1029.0	1049.0	1070.0	1084.9	1102.4
22.5°	887.4	909.7	938.3	965.6	978.1	986.8	1017.8	1035.2	1053.9	1068.7	1084.9
25°	872.4	893.6	918.4	940.8	953.2	960.6	988.0	1004.2	1017.8	1032.8	1047.7
27.5°	851.3	867.5	888.6	904.8	912.2	919.6	942.0	955.7	968.1	980.5	990.5
30°	814.0	826.4	841.3	855.0	862.5	863.7	884.8	892.3	902.3	910.9	918.4
32.5°	764.2	774.3	783.0	790.4	795.4	796.6	812.8	815.2	825.2	825.2	836.4
35°	700.9	705.9	712.1	712.1	715.8	712.1	723.3	725.7	727.0	728.3	737.0
37.5°	628.9	631.3	635.1	627.6	627.6	623.9	627.6	630.1	625.2	625.2	631.3
40°	560.4	555.5	550.5	543.1	539.4	531.9	531.9	525.7	521.9	519.5	520.8
42.5°	494.7	483.4	472.2	456.1	448.6	441.1	433.7	425.1	422.5	416.4	412.6
45°	431.2	415.1	400.2	374.1	359.2	351.7	335.6	318.1	307.0	304.5	294.6
47.5°	377.8	354.2	329.3	298.3	283.3	269.7	246.1	231.2	216.2	208.8	202.5
50°	330.5	309.5	277.1	243.6	225.0	211.3	185.2	167.7	151.7	140.5	132.9
52.5°	289.6	266.0	236.2	197.6	179.0	164.0	135.5	115.6	102.0	90.7	82.1
55°	243.6	225.0	195.1	159.1	140.5	123.0	98.1	77.1	63.4	55.9	49.7
57.5°	210.0	193.9	165.3	130.5	113.1	97.0	72.0	54.7	43.5	36.1	32.4
60°	187.6	172.7	147.9	114.3	98.1	83.2	59.7	43.5	33.5	27.4	24.9
62.5°	169.0	154.1	131.8	100.7	87.0	72.0	51.0	36.1	27.4	22.3	18.6
65°	147.9	134.2	114.3	87.0	74.6	62.1	43.5	29.8	22.3	17.3	14.9
67.5°	125.5	113.1	95.7	72.0	62.1	52.2	34.8	24.9	18.6	14.9	12.4
70°	102.0	92.0	75.8	58.4	49.7	41.0	28.6	19.9	13.6	11.2	9.9
72.5°	78.3	69.6	58.4	44.7	37.3	31.1	21.2	14.9	11.2	8.7	7.4
75°	55.9	49.7	41.0	32.4	27.4	22.3	16.2	11.2	7.4	6.2	5.0
77.5°	38.5	34.8	28.6	22.3	18.6	16.2	11.2	7.4	6.2	5.0	3.7
80°	24.9	22.3	18.6	13.6	11.2	9.9	6.2	5.0	3.7	2.4	2.4
82.5°	14.9	13.6	11.2	7.4	6.2	5.0	3.7	2.4	2.4	1.3	1.3
85°	8.7	7.4	5.0	3.7	3.7	2.4	2.4	1.3	1.3	0.0	0.0
87.5°	3.7	2.4	2.4	1.3	1.3	1.3	1.3	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°	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0
2.5°	955.7	961.9	960.6	964.4	963.1	963.1	969.3	966.9	973.1	973.1	974.3
5°	969.3	978.1	978.1	984.2	983.1	985.5	991.7	991.7	999.3	1001.7	1001.7
7.5°	989.2	1000.4	1003.0	1009.2	1010.4	1015.3	1020.3	1021.6	1031.5	1033.9	1035.2
10°	1016.6	1030.2	1033.9	1040.2	1042.7	1047.7	1053.9	1056.4	1068.7	1070.0	1075.0
12.5°	1050.1	1065.0	1068.7	1076.2	1077.5	1083.7	1092.4	1094.9	1107.3	1111.0	1114.7
15°	1082.5	1096.1	1102.4	1109.8	1111.0	1118.6	1126.0	1128.4	1139.6	1144.6	1148.4
17.5°	1104.8	1121.0	1124.7	1134.6	1134.6	1140.9	1148.4	1150.8	1162.0	1165.7	1168.3
20°	1109.8	1124.7	1129.7	1137.2	1138.3	1142.1	1148.4	1150.8	1160.8	1162.0	1165.7
22.5°	1091.2	1106.1	1108.6	1116.0	1117.3	1121.0	1126.0	1124.7	1137.2	1135.9	1137.2
25°	1051.4	1065.0	1065.0	1073.7	1072.5	1076.2	1078.7	1077.5	1088.6	1088.6	1088.6
27.5°	994.2	1006.7	1007.9	1014.1	1010.4	1011.6	1014.1	1012.9	1020.3	1020.3	1020.3
30°	923.4	933.4	929.6	934.5	932.1	934.5	932.1	930.8	933.4	935.8	934.5
32.5°	835.1	842.6	842.6	843.9	843.9	836.4	833.9	833.9	832.7	831.4	831.4
35°	733.3	739.5	737.0	737.0	735.7	728.3	724.6	722.0	725.7	718.3	723.3
37.5°	628.9	630.1	626.3	625.2	618.9	618.9	612.7	607.7	610.1	609.0	604.0
40°	514.5	519.5	512.0	509.6	513.3	508.3	502.1	495.8	500.8	494.7	497.1
42.5°	402.6	401.4	398.9	398.9	398.9	391.4	390.3	389.0	390.3	385.3	381.5
45°	290.8	287.0	283.3	283.3	278.4	275.8	275.8	272.1	266.0	266.0	258.5
47.5°	196.4	187.6	185.2	183.9	181.5	181.5	179.0	176.4	175.2	169.0	169.0
50°	128.0	119.3	116.8	115.6	116.8	114.3	111.8	109.4	106.9	105.7	103.2
52.5°	77.1	73.3	70.9	69.6	67.1	65.9	64.6	62.1	60.9	60.9	59.7
55°	46.0	42.3	37.3	37.3	37.3	36.1	34.8	33.5	32.4	32.4	31.1
57.5°	28.6	26.1	23.6	22.3	22.3	22.3	21.2	21.2	21.2	21.2	19.9
60°	21.2	18.6	17.3	17.3	17.3	16.2	16.2	16.2	16.2	14.9	14.9
62.5°	16.2	14.9	13.6	13.6	12.4	12.4	12.4	12.4	12.4	12.4	11.2
65°	13.6	11.2	11.2	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
67.5°	9.9	8.7	8.7	8.7	8.7	7.4	7.4	7.4	7.4	7.4	7.4
70°	7.4	7.4	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
72.5°	6.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
75°	5.0	5.0	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
77.5°	3.7	3.7	3.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	2.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	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: P843475

CATALOG NUMBER: LD4C20DE010B40 EU4C20B40 4LBSWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	952.0	952.0	952.0	952.0	952.0	952.0	952.0	952.0
2.5°	974.3	980.5	974.3	974.3	978.1	976.8	979.3	975.6
5°	1003.0	1011.6	1005.4	1004.2	1010.4	1009.2	1010.4	1007.9
7.5°	1037.8	1046.4	1040.2	1040.2	1046.4	1045.2	1049.0	1046.4
10°	1077.5	1087.5	1078.7	1079.9	1088.6	1087.5	1087.5	1087.5
12.5°	1118.6	1128.4	1123.4	1123.4	1129.7	1130.9	1132.2	1130.9
15°	1152.1	1162.0	1155.8	1155.8	1164.5	1163.3	1164.5	1163.3
17.5°	1172.0	1181.9	1174.4	1174.4	1181.9	1181.9	1183.1	1184.3
20°	1167.0	1178.1	1172.0	1169.4	1178.1	1178.1	1176.9	1176.9
22.5°	1138.3	1148.4	1143.3	1140.9	1147.1	1144.6	1143.3	1144.6
25°	1088.6	1098.7	1088.6	1088.6	1093.6	1092.4	1093.6	1092.4
27.5°	1021.6	1029.0	1019.0	1017.8	1022.8	1020.3	1019.0	1022.8
30°	932.1	939.5	934.5	930.8	937.1	933.4	930.8	932.1
32.5°	830.1	835.1	832.7	826.4	830.1	827.7	826.4	827.7
35°	718.3	724.6	714.6	713.4	719.6	714.6	712.1	718.3
37.5°	602.7	610.1	601.5	602.7	599.0	600.2	597.8	601.5
40°	493.4	492.1	489.7	488.4	489.7	485.9	488.4	484.7
42.5°	375.2	377.8	376.5	375.2	376.5	371.7	369.1	374.1
45°	261.0	259.8	257.3	254.8	254.8	253.5	253.5	249.8
47.5°	167.7	166.5	161.5	162.8	165.3	162.8	159.1	164.0
50°	102.0	100.7	100.7	99.4	102.0	99.4	97.0	97.0
52.5°	57.1	57.1	55.9	55.9	55.9	55.9	54.7	53.4
55°	31.1	29.8	29.8	29.8	28.6	28.6	28.6	28.6
57.5°	19.9	19.9	19.9	19.9	19.9	19.9	18.6	18.6
60°	14.9	14.9	14.9	14.9	13.6	14.9	13.6	13.6
62.5°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
65°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
67.5°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
70°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
72.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
75°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)