

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: P843461

Luminaire Tested: **LD4C20DE010B2750 EU4C20B35 4LBSWLI**

Issue Date: 5/7/2024



Test Information

Test Method: LM-79-08
Report Number: P843461
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: LD4C20DE010B2750 EU4C20B35 4LBSWLI
Description: 4in Downlight with BioUp LEDs
Light Source: -
Ballast/Driver:

Summary

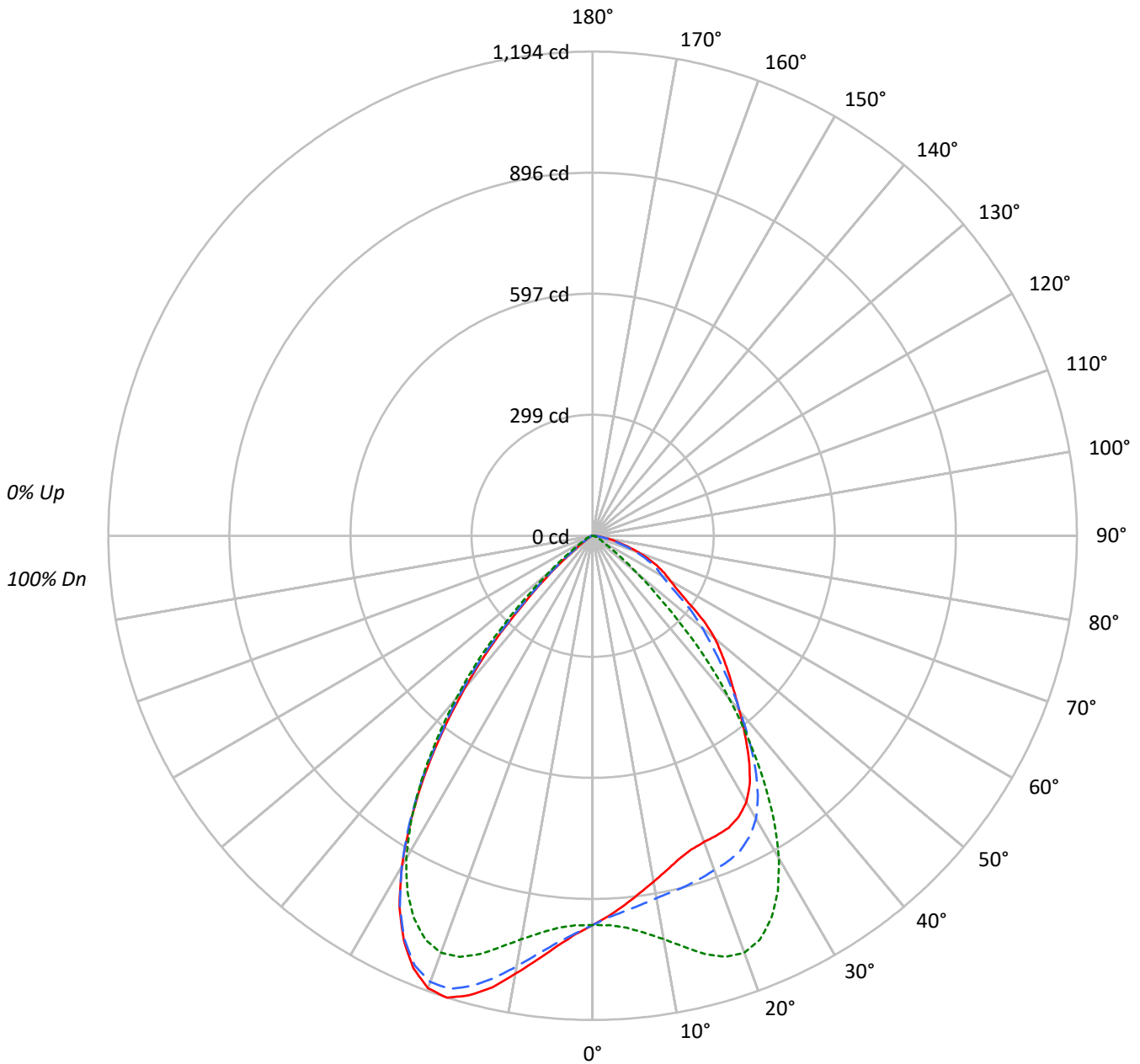
Lumens per Lamp: N/A
Luminaire Lumens: 1771.5 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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°	117939	117939	117939
5°	112668	119635	125345
10°	108032	126009	136799
15°	104879	135811	149191
20°	105035	143040	155173
25°	107698	141179	149326
30°	107557	130326	133333
35°	100739	110143	108643
40°	90242	84004	78391
45°	81867	53339	43765
50°	75208	27063	18673
55°	61751	12080	6190
60°	54178	6782	3366
65°	51017	5116	2558
70°	43643	4059	2227
75°	33274	2943	1804
80°	23913	1769	920
85°	17620	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.2	5.3
10°-20°	290.6	16.4
20°-30°	449.6	25.4
30°-40°	443.0	25.0
40°-50°	272.0	15.4
50°-60°	121.0	6.8
60°-70°	67.6	3.8
70°-80°	29.2	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°	833.5	47.1
0°-40°	1276.5	72.1
0°-60°	1669.5	94.2
0°-90°	1771.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1771.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	960	960	960	960	960	
5°	914	929	970	1008	1016	86
15°	825	894	1068	1149	1173	234
25°	794	858	1042	1098	1102	365
35°	672	699	734	732	724	417
45°	471	447	307	268	252	365
55°	288	261	56	33	29	265
65°	176	158	18	10	9	172
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°	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0
2.5°	937.4	937.4	937.4	937.4	939.9	936.2	939.9	939.9	943.7	944.9	941.2
5°	913.6	912.4	913.6	913.6	916.1	914.9	918.7	921.1	926.2	928.7	928.7
7.5°	888.5	888.5	888.5	891.1	894.8	893.6	897.3	901.1	908.6	913.6	917.4
10°	866.0	864.7	868.5	869.8	873.5	873.5	879.7	883.5	892.3	902.4	907.3
12.5°	844.6	843.5	845.9	849.7	855.9	855.9	861.0	867.3	879.7	891.1	899.8
15°	824.6	825.9	829.6	832.1	839.7	839.7	845.9	853.5	867.3	881.0	893.6
17.5°	810.9	812.2	814.6	818.4	825.9	825.9	832.1	840.9	855.9	871.0	886.1
20°	803.4	804.6	807.1	810.9	817.1	818.4	823.4	833.4	847.2	863.5	877.3
22.5°	799.6	802.1	804.6	807.1	813.3	813.3	819.7	827.2	840.9	857.2	869.8
25°	794.5	797.0	798.3	802.1	807.1	807.1	810.9	819.7	832.1	845.9	858.5
27.5°	780.7	783.3	784.6	788.3	793.3	792.1	797.0	803.4	814.6	827.2	837.1
30°	758.2	759.5	762.0	763.2	767.0	767.0	770.7	777.0	784.6	795.8	805.8
32.5°	721.8	724.4	725.6	726.9	730.6	729.3	730.6	734.4	741.9	752.0	758.2
35°	671.7	676.8	676.8	679.2	680.5	679.2	679.2	684.3	688.0	695.5	699.3
37.5°	616.6	620.4	619.1	621.6	622.8	619.1	621.6	622.8	627.9	631.6	632.9
40°	562.7	563.9	563.9	563.9	563.9	562.7	563.9	565.2	569.0	569.0	565.2
42.5°	513.8	515.1	515.1	512.5	515.1	513.8	513.8	513.8	513.8	508.8	505.0
45°	471.2	472.4	472.4	471.2	471.2	468.7	467.5	466.2	462.4	456.2	447.4
47.5°	431.1	433.6	434.9	432.4	431.1	428.6	428.6	421.0	416.1	408.6	396.1
50°	393.5	396.1	396.1	393.5	393.5	389.7	386.0	383.5	376.0	367.2	352.2
52.5°	346.0	349.7	349.7	348.4	348.4	343.4	342.1	337.2	330.8	320.8	308.3
55°	288.3	293.3	292.0	290.7	288.3	288.3	288.3	284.5	280.7	273.2	260.7
57.5°	246.9	248.1	248.1	246.9	246.9	244.4	244.4	240.6	239.3	231.8	221.8
60°	220.5	220.5	221.8	220.5	219.4	218.1	216.8	214.3	210.6	205.5	198.0
62.5°	199.3	200.5	200.5	199.3	198.0	196.7	195.6	193.0	190.5	186.8	179.2
65°	175.5	177.9	176.7	175.5	174.2	172.9	172.9	170.4	168.0	165.4	157.9
67.5°	149.1	150.4	151.7	149.1	149.1	147.9	147.9	145.4	144.2	139.1	134.1
70°	121.5	122.8	122.8	121.5	121.5	120.3	120.3	119.1	117.8	114.0	109.0
72.5°	95.3	96.5	95.3	94.0	94.0	94.0	92.8	91.5	90.2	87.8	84.0
75°	70.1	70.1	71.4	70.1	69.0	69.0	67.7	67.7	65.2	63.9	60.2
77.5°	50.1	51.4	50.1	50.1	48.9	47.6	47.6	46.3	46.3	45.2	42.6
80°	33.8	33.8	35.1	33.8	32.6	33.8	32.6	31.3	31.3	30.1	27.6
82.5°	21.3	22.5	21.3	21.3	21.3	21.3	21.3	20.0	20.0	18.8	17.6
85°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11.3	11.3	11.3	10.0
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°	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0
2.5°	946.2	947.4	950.0	953.7	953.7	951.2	957.5	957.5	960.0	961.3	966.3
5°	936.2	938.6	943.7	950.0	951.2	950.0	958.7	962.6	966.3	970.1	977.6
7.5°	927.4	932.4	941.2	950.0	953.7	953.7	967.5	972.5	980.0	987.5	996.3
10°	922.4	929.9	942.5	956.2	960.0	963.7	980.0	990.1	1000.1	1010.1	1022.6
12.5°	916.1	929.9	946.2	963.7	971.2	976.3	998.8	1011.4	1025.2	1037.6	1053.9
15°	914.9	931.1	952.5	975.0	985.1	992.6	1017.7	1035.2	1051.5	1067.8	1084.1
17.5°	909.9	929.9	956.2	981.3	993.9	1003.8	1032.7	1053.9	1072.8	1089.0	1107.9
20°	903.6	926.2	955.0	982.5	996.3	1006.3	1037.6	1057.7	1079.0	1094.1	1111.7
22.5°	894.8	917.4	946.2	973.8	986.3	995.0	1026.4	1044.0	1062.8	1077.8	1094.1
25°	879.7	901.1	926.2	948.7	961.3	968.8	996.3	1012.7	1026.4	1041.5	1056.5
27.5°	858.5	874.8	896.0	912.4	919.9	927.4	950.0	963.7	976.3	988.8	998.8
30°	820.8	833.4	848.4	862.3	869.8	871.0	892.3	899.8	909.9	918.7	926.2
32.5°	770.7	780.7	789.5	797.0	802.1	803.4	819.7	822.1	832.1	832.1	843.5
35°	706.8	711.9	718.1	718.1	721.8	718.1	729.3	731.9	733.2	734.4	743.2
37.5°	634.2	636.6	640.4	632.9	632.9	629.1	632.9	635.4	630.3	630.3	636.6
40°	565.2	560.2	555.2	547.6	543.9	536.3	536.3	530.1	526.4	523.8	525.1
42.5°	498.8	487.5	476.3	460.0	452.5	444.9	437.3	428.6	426.1	419.9	416.1
45°	434.9	418.6	403.6	377.3	362.2	354.6	338.4	320.8	309.6	307.0	297.0
47.5°	381.0	357.2	332.1	300.8	285.8	271.9	248.1	233.1	218.1	210.6	204.2
50°	333.4	312.1	279.4	245.7	226.9	213.0	186.8	169.2	152.9	141.6	134.1
52.5°	292.0	268.2	238.2	199.3	180.5	165.4	136.6	116.6	102.8	91.5	82.7
55°	245.7	226.9	196.7	160.4	141.6	124.1	99.0	77.7	63.9	56.4	50.1
57.5°	211.8	195.6	166.7	131.6	114.0	97.7	72.7	55.1	43.9	36.4	32.6
60°	189.2	174.2	149.1	115.3	99.0	84.0	60.2	43.9	33.8	27.6	25.1
62.5°	170.4	155.4	132.8	101.5	87.8	72.7	51.4	36.4	27.6	22.5	18.8
65°	149.1	135.4	115.3	87.8	75.2	62.6	43.9	30.1	22.5	17.6	15.0
67.5°	126.6	114.0	96.5	72.7	62.6	52.7	35.1	25.1	18.8	15.0	12.5
70°	102.8	92.8	76.5	58.9	50.1	41.4	28.9	20.0	13.7	11.3	10.0
72.5°	79.0	70.1	58.9	45.2	37.7	31.3	21.3	15.0	11.3	8.8	7.5
75°	56.4	50.1	41.4	32.6	27.6	22.5	16.3	11.3	7.5	6.2	5.0
77.5°	38.8	35.1	28.9	22.5	18.8	16.3	11.3	7.5	6.2	5.0	3.8
80°	25.1	22.5	18.8	13.7	11.3	10.0	6.2	5.0	3.8	2.5	2.5
82.5°	15.0	13.7	11.3	7.5	6.2	5.0	3.8	2.5	2.5	1.3	1.3
85°	8.8	7.5	5.0	3.8	3.8	2.5	2.5	1.3	1.3	0.0	0.0
87.5°	3.8	2.5	2.5	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°	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0
2.5°	963.7	970.1	968.8	972.5	971.2	971.2	977.6	975.0	981.3	981.3	982.5
5°	977.6	986.3	986.3	992.6	991.3	993.9	1000.1	1000.1	1007.6	1010.1	1010.1
7.5°	997.6	1008.9	1011.4	1017.7	1018.9	1023.9	1029.0	1030.1	1040.2	1042.7	1044.0
10°	1025.2	1038.9	1042.7	1049.0	1051.5	1056.5	1062.8	1065.2	1077.8	1079.0	1084.1
12.5°	1059.0	1074.0	1077.8	1085.3	1086.6	1092.9	1101.6	1104.1	1116.6	1120.5	1124.2
15°	1091.6	1105.3	1111.7	1119.2	1120.5	1128.0	1135.5	1137.9	1149.2	1154.2	1158.0
17.5°	1114.1	1130.4	1134.2	1144.3	1144.3	1150.5	1158.0	1160.5	1171.8	1175.6	1178.1
20°	1119.2	1134.2	1139.2	1146.7	1148.0	1151.8	1158.0	1160.5	1170.6	1171.8	1175.6
22.5°	1100.4	1115.4	1117.9	1125.4	1126.7	1130.4	1135.5	1134.2	1146.7	1145.4	1146.7
25°	1060.3	1074.0	1074.0	1082.8	1081.5	1085.3	1087.8	1086.6	1097.8	1097.8	1097.8
27.5°	1002.5	1015.1	1016.4	1022.6	1018.9	1020.2	1022.6	1021.4	1029.0	1029.0	1029.0
30°	931.1	941.2	937.4	942.5	939.9	942.5	939.9	938.6	941.2	943.7	942.5
32.5°	842.2	849.7	849.7	851.0	851.0	843.5	840.9	840.9	839.7	838.4	838.4
35°	739.4	745.6	743.2	743.2	741.9	734.4	730.6	728.2	731.9	724.4	729.3
37.5°	634.2	635.4	631.6	630.3	624.1	624.1	617.9	612.8	615.3	614.1	609.1
40°	518.9	523.8	516.3	513.8	517.6	512.5	506.3	500.0	505.0	498.8	501.3
42.5°	406.0	404.8	402.3	402.3	402.3	394.8	393.5	392.3	393.5	388.6	384.8
45°	293.3	289.5	285.8	285.8	280.7	278.2	278.2	274.5	268.2	268.2	260.7
47.5°	198.0	189.2	186.8	185.5	183.0	183.0	180.5	177.9	176.7	170.4	170.4
50°	129.1	120.3	117.8	116.6	117.8	115.3	112.7	110.3	107.8	106.5	104.1
52.5°	77.7	73.9	71.4	70.1	67.7	66.4	65.2	62.6	61.4	61.4	60.2
55°	46.3	42.6	37.7	37.7	37.7	36.4	35.1	33.8	32.6	32.6	31.3
57.5°	28.9	26.3	23.8	22.5	22.5	22.5	21.3	21.3	21.3	21.3	20.0
60°	21.3	18.8	17.6	17.6	17.6	16.3	16.3	16.3	16.3	15.0	15.0
62.5°	16.3	15.0	13.7	13.7	12.5	12.5	12.5	12.5	12.5	12.5	11.3
65°	13.7	11.3	11.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
67.5°	10.0	8.8	8.8	8.8	8.8	7.5	7.5	7.5	7.5	7.5	7.5
70°	7.5	7.5	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	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
77.5°	3.8	3.8	3.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
80°	2.5	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	960.0	960.0	960.0	960.0	960.0	960.0	960.0	960.0
2.5°	982.5	988.8	982.5	982.5	986.3	985.1	987.5	983.8
5°	1011.4	1020.2	1013.8	1012.7	1018.9	1017.7	1018.9	1016.4
7.5°	1046.4	1055.3	1049.0	1049.0	1055.3	1053.9	1057.7	1055.3
10°	1086.6	1096.6	1087.8	1089.0	1097.8	1096.6	1096.6	1096.6
12.5°	1128.0	1137.9	1132.9	1132.9	1139.2	1140.4	1141.7	1140.4
15°	1161.8	1171.8	1165.5	1165.5	1174.3	1173.0	1174.3	1173.0
17.5°	1181.8	1191.8	1184.3	1184.3	1191.8	1191.8	1193.1	1194.4
20°	1176.8	1188.0	1181.8	1179.3	1188.0	1188.0	1186.9	1186.9
22.5°	1148.0	1158.0	1152.9	1150.5	1156.7	1154.2	1152.9	1154.2
25°	1097.8	1107.9	1097.8	1097.8	1102.8	1101.6	1102.8	1101.6
27.5°	1030.1	1037.6	1027.7	1026.4	1031.4	1029.0	1027.7	1031.4
30°	939.9	947.4	942.5	938.6	944.9	941.2	938.6	939.9
32.5°	837.1	842.2	839.7	833.4	837.1	834.7	833.4	834.7
35°	724.4	730.6	720.7	719.4	725.6	720.7	718.1	724.4
37.5°	607.8	615.3	606.6	607.8	604.1	605.3	602.9	606.6
40°	497.5	496.3	493.8	492.5	493.8	490.0	492.5	488.8
42.5°	378.4	381.0	379.7	378.4	379.7	374.7	372.2	377.3
45°	263.1	262.0	259.4	256.9	256.9	255.6	255.6	251.9
47.5°	169.2	168.0	162.9	164.1	166.7	164.1	160.4	165.4
50°	102.8	101.5	101.5	100.3	102.8	100.3	97.7	97.7
52.5°	57.6	57.6	56.4	56.4	56.4	56.4	55.1	53.9
55°	31.3	30.1	30.1	30.1	28.9	28.9	28.9	28.9
57.5°	20.0	20.0	20.0	20.0	20.0	20.0	18.8	18.8
60°	15.0	15.0	15.0	15.0	13.7	15.0	13.7	13.7
62.5°	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
65°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
67.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
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°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
77.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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)