

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: P858505

Luminaire Tested: **LD4C20W2N2765D010 4LBSWNL_2700K**

Issue Date: 11/9/2023



Test Information

Test Method: LM-79-08
Report Number: P858505
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 11/9/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20W2N2765D010 4LBSWNLI_2700K
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, W2N2765 LEDS
AND 4LBSWNLI TRIM WITH FINISH

Light Source: -
Ballast/Driver: -

Summary

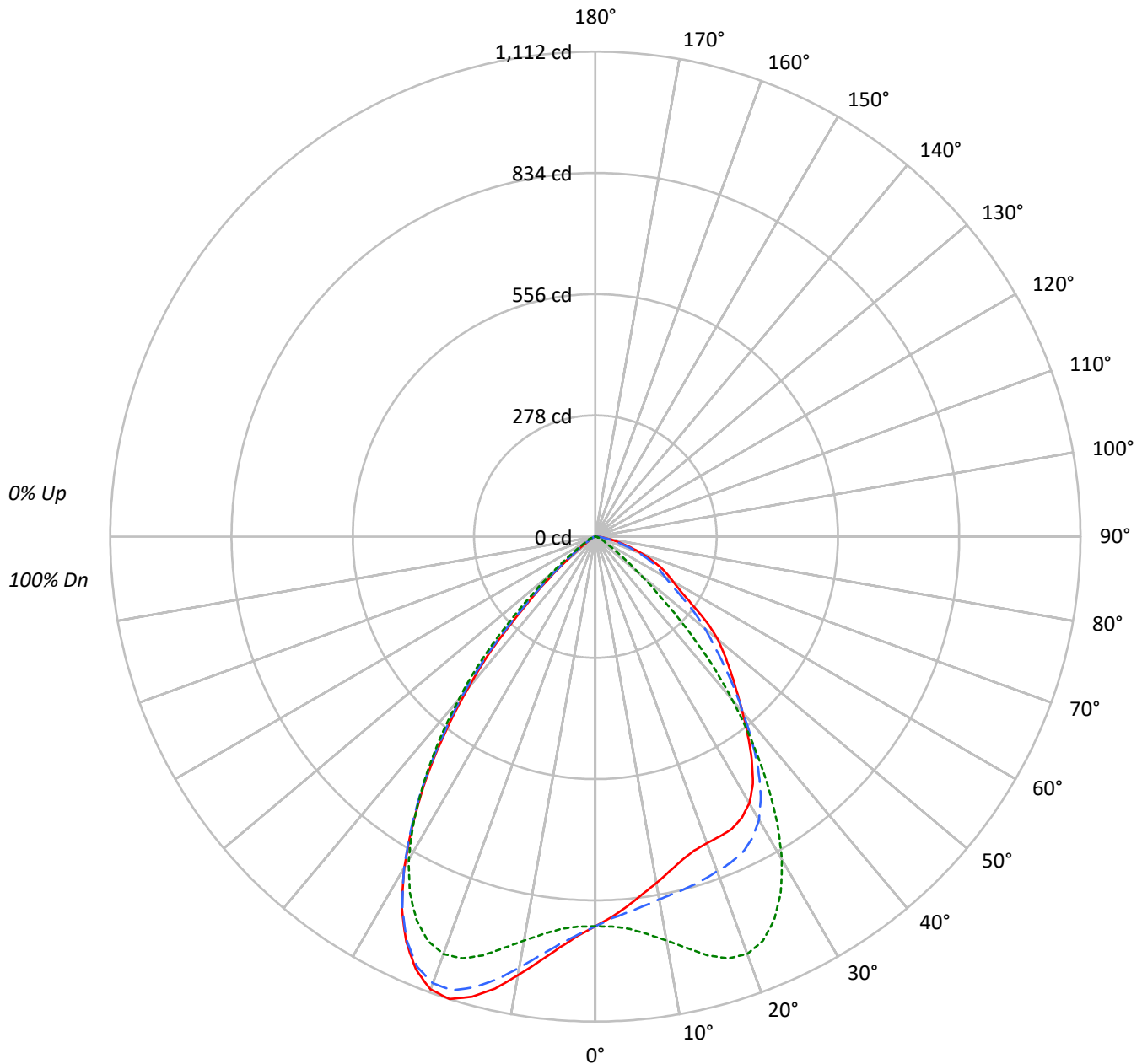
Lumens per Lamp: N/A
Luminaire Lumens: 1649.0 lumens
Efficiency: N/A
Efficacy: 64.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 25.4
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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	109782	109782	109782
5°	104874	111348	116676
10°	100560	117301	127343
15°	97629	126411	138876
20°	97766	133144	144439
25°	100256	131406	138997
30°	100124	121304	124112
35°	93780	102524	101129
40°	84004	78198	72970
45°	76203	49655	40742
50°	70009	25190	17392
55°	57467	11245	5740
60°	50444	6315	3145
65°	47471	4738	2384
70°	40661	3772	2119
75°	30996	2801	1661
80°	22286	1627	849
85°	16492	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	5.3
10°-20°	270.5	16.4
20°-30°	418.5	25.4
30°-40°	412.4	25.0
40°-50°	253.2	15.4
50°-60°	112.6	6.8
60°-70°	62.9	3.8
70°-80°	27.2	1.7
80°-90°	4.9	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°	775.8	47.0
0°-40°	1188.2	72.1
0°-60°	1554.0	94.2
0°-90°	1649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1649.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	894	894	894	894	894	
5°	850	864	903	938	946	80
15°	768	832	994	1070	1092	218
25°	740	799	969	1022	1025	339
35°	625	651	684	681	674	388
45°	439	416	286	250	234	340
55°	268	243	52	30	27	247
65°	163	147	16	9	8	160
75°	65	56	6	4	4	72
85°	12	9	0	0	0	14
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°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	872.6	872.6	872.6	872.6	874.9	871.4	874.9	874.9	878.4	879.6	876.1
5°	850.4	849.3	850.4	850.4	852.7	851.6	855.1	857.4	862.1	864.4	864.4
7.5°	827.1	827.1	827.1	829.4	832.9	831.8	835.2	838.8	845.8	850.4	853.9
10°	806.1	804.9	808.4	809.6	813.1	813.1	818.9	822.4	830.6	839.9	844.6
12.5°	786.2	785.1	787.4	791.0	796.8	796.8	801.4	807.3	818.9	829.4	837.6
15°	767.6	768.8	772.3	774.6	781.6	781.6	787.4	794.4	807.3	820.1	831.8
17.5°	754.8	755.9	758.3	761.7	768.8	768.8	774.6	782.8	796.8	810.7	824.8
20°	747.8	748.9	751.3	754.8	760.6	761.7	766.5	775.8	788.6	803.7	816.6
22.5°	744.3	746.6	748.9	751.3	757.1	757.1	762.9	769.9	782.8	797.9	809.6
25°	739.6	741.9	743.1	746.6	751.3	751.3	754.8	762.9	774.6	787.4	799.1
27.5°	726.8	729.1	730.3	733.8	738.4	737.2	741.9	747.8	758.3	769.9	779.3
30°	705.8	706.9	709.3	710.4	713.9	713.9	717.4	723.3	730.3	740.8	750.1
32.5°	671.9	674.3	675.5	676.6	680.1	678.9	680.1	683.6	690.6	700.0	705.8
35°	625.3	629.9	629.9	632.3	633.5	632.3	632.3	636.9	640.4	647.4	651.0
37.5°	573.9	577.5	576.3	578.6	579.8	576.3	578.6	579.8	584.5	587.9	589.1
40°	523.8	525.0	525.0	525.0	525.0	523.8	525.0	526.1	529.6	529.6	526.1
42.5°	478.3	479.5	479.5	477.1	479.5	478.3	478.3	478.3	478.3	473.6	470.1
45°	438.6	439.8	439.8	438.6	438.6	436.3	435.1	434.0	430.4	424.6	416.5
47.5°	401.3	403.6	404.8	402.5	401.3	398.9	398.9	392.0	387.3	380.3	368.6
50°	366.3	368.6	368.6	366.3	366.3	362.8	359.3	356.9	350.0	341.8	327.8
52.5°	322.0	325.5	325.5	324.3	324.3	319.7	318.5	313.8	308.0	298.6	287.0
55°	268.3	273.0	271.8	270.7	268.3	268.3	268.3	264.8	261.3	254.3	242.6
57.5°	229.8	231.0	231.0	229.8	229.8	227.5	227.5	224.0	222.8	215.8	206.5
60°	205.3	205.3	206.5	205.3	204.2	203.0	201.8	199.5	196.0	191.3	184.3
62.5°	185.5	186.7	186.7	185.5	184.3	183.1	182.0	179.7	177.3	173.8	166.8
65°	163.3	165.6	164.5	163.3	162.2	161.0	161.0	158.6	156.3	154.0	147.0
67.5°	138.8	140.0	141.1	138.8	138.8	137.7	137.7	135.3	134.1	129.5	124.8
70°	113.2	114.3	114.3	113.2	113.2	112.0	112.0	110.8	109.6	106.2	101.5
72.5°	88.7	89.8	88.7	87.5	87.5	87.5	86.3	85.1	84.0	81.7	78.2
75°	65.3	65.3	66.5	65.3	64.2	64.2	63.0	63.0	60.6	59.5	56.0
77.5°	46.7	47.8	46.7	46.7	45.5	44.3	44.3	43.1	43.1	42.0	39.7
80°	31.5	31.5	32.7	31.5	30.3	31.5	30.3	29.2	29.2	28.0	25.7
82.5°	19.8	21.0	19.8	19.8	19.8	19.8	19.8	18.6	18.6	17.5	16.3
85°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	10.5	10.5	10.5	9.3
87.5°	5.9	5.9	4.7	4.7	5.9	5.9	5.9	4.7	4.7	4.7	4.7
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°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	880.8	881.9	884.2	887.8	887.8	885.4	891.3	891.3	893.6	894.7	899.4
5°	871.4	873.8	878.4	884.2	885.4	884.2	892.4	895.9	899.4	902.9	909.9
7.5°	863.3	867.9	876.1	884.2	887.8	887.8	900.6	905.3	912.2	919.2	927.4
10°	858.6	865.6	877.2	890.1	893.6	897.1	912.2	921.6	930.9	940.3	951.9
12.5°	852.7	865.6	880.8	897.1	904.1	908.7	929.8	941.4	954.3	965.9	981.1
15°	851.6	866.8	886.6	907.6	916.9	923.9	947.3	963.6	978.7	993.9	1009.1
17.5°	846.9	865.6	890.1	913.4	925.1	934.4	961.2	981.1	998.6	1013.8	1031.3
20°	841.1	862.1	888.9	914.6	927.4	936.7	965.9	984.6	1004.4	1018.4	1034.7
22.5°	832.9	853.9	880.8	906.4	918.1	926.2	955.4	971.8	989.3	1003.2	1018.4
25°	818.9	838.8	862.1	883.1	894.7	901.7	927.4	942.6	955.4	969.4	983.4
27.5°	799.1	814.3	834.1	849.3	856.3	863.3	884.2	897.1	908.7	920.4	929.8
30°	764.1	775.8	789.8	802.6	809.6	810.7	830.6	837.6	846.9	855.1	862.1
32.5°	717.4	726.8	734.9	741.9	746.6	747.8	762.9	765.3	774.6	774.6	785.1
35°	658.0	662.6	668.4	668.4	671.9	668.4	678.9	681.3	682.5	683.6	691.8
37.5°	590.3	592.6	596.1	589.1	589.1	585.6	589.1	591.5	586.8	586.8	592.6
40°	526.1	521.4	516.8	509.8	506.3	499.3	499.3	493.5	489.9	487.6	488.8
42.5°	464.3	453.8	443.3	428.1	421.1	414.1	407.1	398.9	396.6	390.8	387.3
45°	404.8	389.6	375.6	351.1	337.2	330.1	315.0	298.6	288.2	285.8	276.5
47.5°	354.6	332.5	309.1	280.0	266.0	253.2	231.0	217.0	203.0	196.0	190.1
50°	310.3	290.5	260.1	228.7	211.2	198.3	173.8	157.5	142.3	131.8	124.8
52.5°	271.8	249.6	221.7	185.5	168.0	154.0	127.1	108.5	95.7	85.1	77.0
55°	228.7	211.2	183.1	149.3	131.8	115.5	92.1	72.3	59.5	52.5	46.7
57.5°	197.2	182.0	155.2	122.5	106.2	91.0	67.6	51.3	40.8	33.8	30.3
60°	176.1	162.2	138.8	107.3	92.1	78.2	56.0	40.8	31.5	25.7	23.3
62.5°	158.6	144.7	123.7	94.5	81.7	67.6	47.8	33.8	25.7	21.0	17.5
65°	138.8	126.0	107.3	81.7	70.0	58.3	40.8	28.0	21.0	16.3	14.0
67.5°	117.8	106.2	89.8	67.6	58.3	49.0	32.7	23.3	17.5	14.0	11.7
70°	95.7	86.3	71.2	54.8	46.7	38.5	26.8	18.6	12.8	10.5	9.3
72.5°	73.5	65.3	54.8	42.0	35.0	29.2	19.8	14.0	10.5	8.2	7.0
75°	52.5	46.7	38.5	30.3	25.7	21.0	15.2	10.5	7.0	5.9	4.7
77.5°	36.2	32.7	26.8	21.0	17.5	15.2	10.5	7.0	5.9	4.7	3.5
80°	23.3	21.0	17.5	12.8	10.5	9.3	5.9	4.7	3.5	2.3	2.3
82.5°	14.0	12.8	10.5	7.0	5.9	4.7	3.5	2.3	2.3	1.2	1.2
85°	8.2	7.0	4.7	3.5	3.5	2.3	2.3	1.2	1.2	0.0	0.0
87.5°	3.5	2.3	2.3	1.2	1.2	1.2	1.2	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°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	897.1	902.9	901.7	905.3	904.1	904.1	909.9	907.6	913.4	913.4	914.6
5°	909.9	918.1	918.1	923.9	922.8	925.1	930.9	930.9	937.9	940.3	940.3
7.5°	928.6	939.1	941.4	947.3	948.4	953.1	957.8	958.9	968.2	970.6	971.8
10°	954.3	967.1	970.6	976.4	978.7	983.4	989.3	991.6	1003.2	1004.4	1009.1
12.5°	985.7	999.7	1003.2	1010.2	1011.4	1017.2	1025.4	1027.7	1039.4	1042.9	1046.4
15°	1016.1	1028.9	1034.7	1041.7	1042.9	1049.9	1056.9	1059.2	1069.7	1074.4	1077.9
17.5°	1037.1	1052.2	1055.8	1065.1	1065.1	1070.9	1077.9	1080.3	1090.7	1094.2	1096.6
20°	1041.7	1055.8	1060.4	1067.4	1068.6	1072.1	1077.9	1080.3	1089.6	1090.7	1094.2
22.5°	1024.2	1038.3	1040.6	1047.6	1048.7	1052.2	1056.9	1055.8	1067.4	1066.2	1067.4
25°	986.9	999.7	999.7	1007.9	1006.8	1010.2	1012.6	1011.4	1021.9	1021.9	1021.9
27.5°	933.2	944.9	946.1	951.9	948.4	949.6	951.9	950.7	957.8	957.8	957.8
30°	866.8	876.1	872.6	877.2	874.9	877.2	874.9	873.8	876.1	878.4	877.2
32.5°	783.9	791.0	791.0	792.1	792.1	785.1	782.8	782.8	781.6	780.4	780.4
35°	688.3	694.1	691.8	691.8	690.6	683.6	680.1	677.8	681.3	674.3	678.9
37.5°	590.3	591.5	587.9	586.8	580.9	580.9	575.1	570.4	572.8	571.6	567.0
40°	483.0	487.6	480.6	478.3	481.8	477.1	471.3	465.4	470.1	464.3	466.6
42.5°	378.0	376.8	374.5	374.5	374.5	367.5	366.3	365.1	366.3	361.7	358.1
45°	273.0	269.5	266.0	266.0	261.3	259.0	259.0	255.5	249.6	249.6	242.6
47.5°	184.3	176.1	173.8	172.7	170.3	170.3	168.0	165.6	164.5	158.6	158.6
50°	120.2	112.0	109.6	108.5	109.6	107.3	105.0	102.7	100.3	99.2	96.8
52.5°	72.3	68.8	66.5	65.3	63.0	61.8	60.6	58.3	57.2	57.2	56.0
55°	43.1	39.7	35.0	35.0	35.0	33.8	32.7	31.5	30.3	30.3	29.2
57.5°	26.8	24.5	22.2	21.0	21.0	21.0	19.8	19.8	19.8	19.8	18.6
60°	19.8	17.5	16.3	16.3	16.3	15.2	15.2	15.2	15.2	14.0	14.0
62.5°	15.2	14.0	12.8	12.8	11.7	11.7	11.7	11.7	11.7	11.7	10.5
65°	12.8	10.5	10.5	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
67.5°	9.3	8.2	8.2	8.2	8.2	7.0	7.0	7.0	7.0	7.0	7.0
70°	7.0	7.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
72.5°	5.9	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
75°	4.7	4.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	3.5	3.5	3.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	2.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
82.5°	1.2	1.2	1.2	1.2	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: P858505

CATALOG NUMBER: LD4C20W2N2765D010 4LBSWNL1_2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	893.6	893.6	893.6	893.6	893.6	893.6	893.6	893.6
2.5°	914.6	920.4	914.6	914.6	918.1	916.9	919.2	915.8
5°	941.4	949.6	943.7	942.6	948.4	947.3	948.4	946.1
7.5°	974.1	982.3	976.4	976.4	982.3	981.1	984.6	982.3
10°	1011.4	1020.8	1012.6	1013.8	1021.9	1020.8	1020.8	1020.8
12.5°	1049.9	1059.2	1054.6	1054.6	1060.4	1061.6	1062.8	1061.6
15°	1081.4	1090.7	1084.9	1084.9	1093.1	1091.9	1093.1	1091.9
17.5°	1100.0	1109.4	1102.4	1102.4	1109.4	1109.4	1110.6	1111.7
20°	1095.4	1105.9	1100.0	1097.7	1105.9	1105.9	1104.8	1104.8
22.5°	1068.6	1077.9	1073.2	1070.9	1076.7	1074.4	1073.2	1074.4
25°	1021.9	1031.3	1021.9	1021.9	1026.6	1025.4	1026.6	1025.4
27.5°	958.9	965.9	956.6	955.4	960.1	957.8	956.6	960.1
30°	874.9	881.9	877.2	873.8	879.6	876.1	873.8	874.9
32.5°	779.3	783.9	781.6	775.8	779.3	776.9	775.8	776.9
35°	674.3	680.1	670.8	669.6	675.5	670.8	668.4	674.3
37.5°	565.8	572.8	564.6	565.8	562.3	563.4	561.1	564.6
40°	463.1	462.0	459.6	458.5	459.6	456.1	458.5	455.0
42.5°	352.3	354.6	353.5	352.3	353.5	348.8	346.5	351.1
45°	245.0	243.8	241.5	239.1	239.1	238.0	238.0	234.5
47.5°	157.5	156.3	151.6	152.8	155.2	152.8	149.3	154.0
50°	95.7	94.5	94.5	93.3	95.7	93.3	91.0	91.0
52.5°	53.7	53.7	52.5	52.5	52.5	52.5	51.3	50.2
55°	29.2	28.0	28.0	28.0	26.8	26.8	26.8	26.8
57.5°	18.6	18.6	18.6	18.6	18.6	18.6	17.5	17.5
60°	14.0	14.0	14.0	14.0	12.8	14.0	12.8	12.8
62.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
65°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
67.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
70°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
72.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
75°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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)