

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: P880555

Luminaire Tested: **LD4C20D010 EU4209040 4LBDWNH**

Issue Date: 10/4/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P880555
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)
Test Lab: INNOVATION CENTER
Issue Date: 10/4/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20D010 EU4209040 4LBDWNH
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

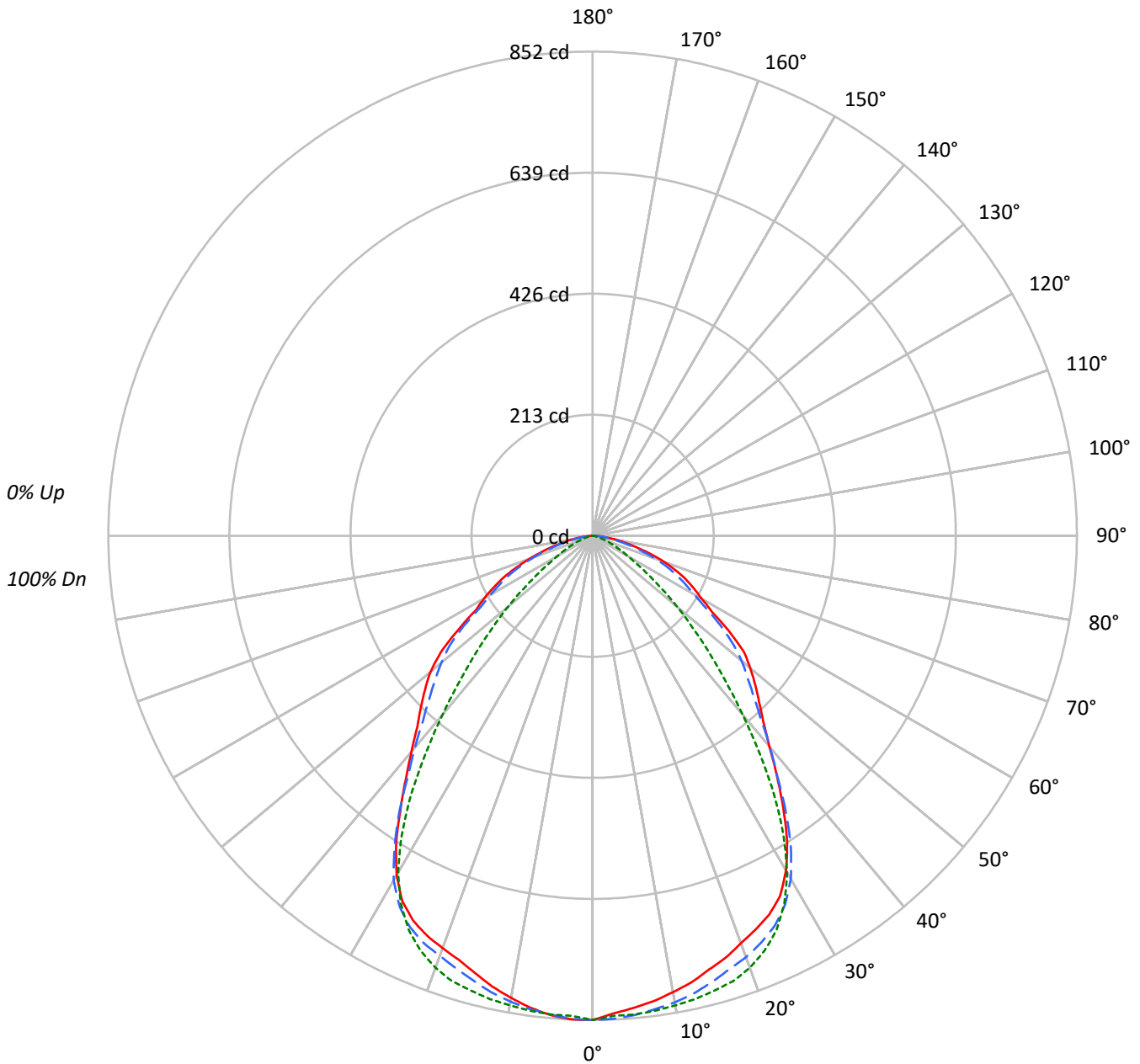
Lumens per Lamp: N/A
Luminaire Lumens: 1734.0 lumens
Efficiency: N/A
Efficacy: 79.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66				66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58				
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51				51				
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46				46				
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41				41				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				37				
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34				34				
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31				31				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	104671	104671	104671
5°	102814	104269	104430
10°	101708	104652	103017
15°	100529	105362	101356
20°	99727	105741	100930
25°	99686	103766	101272
30°	96507	97060	97812
35°	87676	83552	88471
40°	77573	65785	79465
45°	71964	50107	74240
50°	69149	37078	71156
55°	62607	25553	61772
60°	54424	17396	54105
65°	52587	12587	49913
70°	47558	8477	42350
75°	39160	5601	33607
80°	31554	3679	25045
85°	25936	1832	16633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	4.6
10°-20°	230.0	13.3
20°-30°	347.4	20.0
30°-40°	363.6	21.0
40°-50°	294.5	17.0
50°-60°	214.2	12.4
60°-70°	132.1	7.6
70°-80°	59.7	3.4
80°-90°	12.1	0.7
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°	657.8	37.9
0°-40°	1021.4	58.9
0°-60°	1530.1	88.2
0°-90°	1734.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1734.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	852	852	852	852	852	
5°	834	847	846	846	847	79
15°	790	813	828	810	797	223
25°	735	758	766	760	747	337
35°	585	592	557	592	590	364
45°	414	401	288	406	427	322
55°	292	274	119	277	288	261
65°	181	162	43	160	172	177
75°	82	71	12	62	71	90
85°	18	14	1	10	12	21
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°	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0
2.5°	841.5	841.5	849.4	858.5	850.7	842.8	848.1	845.5	854.7	854.7	850.7
5°	833.7	836.3	842.8	850.7	844.2	836.3	842.8	840.2	849.4	849.4	846.8
7.5°	825.8	827.1	835.0	844.2	837.6	829.8	835.0	833.7	841.5	842.8	840.2
10°	815.3	816.6	824.5	833.7	827.1	820.6	825.8	824.5	835.0	835.0	833.7
12.5°	804.8	806.1	814.0	821.9	815.3	808.8	814.0	814.0	824.5	825.8	824.5
15°	790.4	793.0	799.6	807.4	803.6	795.7	800.9	800.9	810.1	812.7	812.7
17.5°	778.6	779.9	786.5	794.4	789.1	782.5	787.8	787.8	796.9	799.6	799.6
20°	762.8	765.5	772.0	779.9	776.0	770.7	774.7	774.7	785.2	787.8	789.1
22.5°	749.8	752.4	757.6	768.2	761.6	757.6	762.8	761.6	773.4	774.7	774.7
25°	735.4	738.0	744.5	751.1	747.1	743.3	747.1	747.1	756.3	757.6	757.6
27.5°	714.4	715.7	722.2	728.8	724.9	719.6	724.9	723.6	732.7	734.1	732.7
30°	680.3	683.0	685.5	694.7	690.8	686.8	692.1	689.5	698.7	698.7	697.3
32.5°	637.0	637.0	642.3	648.9	643.6	641.0	644.9	646.2	652.8	652.8	648.9
35°	584.6	587.3	591.1	595.1	591.1	588.6	592.5	591.1	599.0	596.4	592.5
37.5°	532.2	533.5	537.5	542.7	537.5	533.5	534.8	533.5	540.0	540.0	533.5
40°	483.7	486.3	488.9	494.2	488.9	486.3	487.6	483.7	491.6	488.9	485.0
42.5°	444.3	445.6	449.6	452.2	447.0	445.6	447.0	444.3	448.3	445.6	437.8
45°	414.2	414.2	415.6	419.4	414.2	412.9	412.9	410.2	414.2	409.0	401.1
47.5°	388.0	389.3	390.7	393.2	389.3	385.4	386.7	381.5	384.0	380.1	369.6
50°	361.8	364.4	365.7	368.3	364.4	361.8	363.1	357.8	357.8	351.3	342.1
52.5°	335.6	336.9	335.6	338.2	335.6	331.6	332.9	327.7	327.7	319.9	310.7
55°	292.3	293.6	295.0	297.5	295.0	291.0	293.6	289.7	289.7	284.4	273.9
57.5°	249.0	250.4	251.7	253.0	253.0	250.4	251.7	249.0	247.7	243.8	236.0
60°	221.5	221.5	221.5	222.8	221.5	220.2	220.2	217.6	217.6	212.3	204.5
62.5°	200.6	201.9	201.9	203.1	201.9	200.6	199.3	196.6	195.3	190.1	183.5
65°	180.9	180.9	179.6	182.2	180.9	179.6	179.6	176.9	174.4	169.1	162.5
67.5°	157.3	158.6	157.3	158.6	158.6	157.3	156.0	153.3	152.0	148.1	140.3
70°	132.4	132.4	132.4	133.7	132.4	132.4	133.7	129.8	128.5	123.2	116.6
72.5°	107.5	108.8	108.8	107.5	108.8	106.2	106.2	106.2	104.9	99.6	93.0
75°	82.5	83.9	83.9	85.2	83.9	82.5	82.5	81.3	80.0	76.0	70.8
77.5°	61.6	61.6	62.9	62.9	62.9	61.6	61.6	59.0	59.0	56.3	51.1
80°	44.6	44.6	43.3	44.6	44.6	43.3	43.3	41.9	41.9	39.3	35.4
82.5°	28.9	30.1	30.1	30.1	30.1	28.9	28.9	28.9	27.5	26.2	23.6
85°	18.4	18.4	18.4	18.4	19.7	18.4	19.7	18.4	18.4	15.7	14.4
87.5°	7.9	7.9	7.9	9.2	9.2	7.9	7.9	7.9	7.9	7.9	6.5
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°	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0
2.5°	850.7	852.0	848.1	853.3	849.4	850.7	852.0	850.7	845.5	845.5	859.9
5°	845.5	848.1	844.2	850.7	848.1	848.1	850.7	849.4	844.2	845.5	858.5
7.5°	840.2	844.2	841.5	848.1	844.2	844.2	846.8	846.8	841.5	842.8	854.7
10°	832.3	837.6	836.3	842.8	838.9	838.9	842.8	842.8	837.6	838.9	850.7
12.5°	825.8	831.0	829.8	836.3	833.7	835.0	836.3	838.9	832.3	835.0	845.5
15°	815.3	820.6	820.6	827.1	824.5	827.1	829.8	833.7	828.4	828.4	838.9
17.5°	803.6	810.1	810.1	815.3	815.3	816.6	821.9	825.8	820.6	821.9	831.0
20°	790.4	798.3	798.3	804.8	803.6	806.1	810.1	814.0	808.8	808.8	819.3
22.5°	777.3	783.9	785.2	789.1	789.1	790.4	794.4	796.9	790.4	790.4	800.9
25°	759.0	765.5	766.8	769.5	766.8	766.8	769.5	772.0	765.5	765.5	774.7
27.5°	734.1	740.6	740.6	739.3	736.6	738.0	736.6	738.0	731.4	730.1	739.3
30°	697.3	701.3	701.3	700.0	696.0	696.0	692.1	693.4	684.2	684.2	692.1
32.5°	647.6	651.4	648.9	646.2	641.0	638.4	635.7	634.4	625.2	625.2	634.4
35°	588.6	591.1	587.3	582.0	575.4	571.5	567.6	562.4	555.8	557.1	562.4
37.5°	528.3	528.3	523.0	512.5	507.3	500.7	494.2	494.2	483.7	482.4	486.3
40°	477.2	471.9	462.7	448.3	439.1	432.6	423.4	418.1	410.2	410.2	416.9
42.5°	431.3	420.8	409.0	389.3	380.1	372.3	360.5	355.3	346.1	344.7	348.7
45°	390.7	380.1	363.1	342.1	330.4	321.2	304.1	297.5	289.7	288.4	291.0
47.5°	357.8	346.1	325.1	297.5	285.8	273.9	256.9	247.7	241.2	237.2	241.2
50°	329.0	313.3	291.0	262.2	246.4	236.0	215.0	205.8	196.6	194.0	195.3
52.5°	297.5	281.8	258.2	228.1	213.6	197.9	178.2	165.2	157.3	153.3	157.3
55°	263.4	247.7	224.2	194.0	178.2	163.9	142.8	132.4	123.2	119.3	123.2
57.5°	226.8	212.3	191.4	161.2	146.8	133.7	114.1	103.6	94.4	91.7	94.4
60°	195.3	183.5	162.5	133.7	121.9	107.5	90.4	80.0	72.1	70.8	72.1
62.5°	174.4	161.2	141.6	114.1	102.2	90.4	74.7	64.2	57.6	56.3	57.6
65°	153.3	139.0	120.6	97.0	85.2	76.0	60.3	51.1	44.6	43.3	44.6
67.5°	129.8	116.6	100.9	80.0	70.8	61.6	48.5	39.3	34.1	32.8	34.1
70°	107.5	95.7	80.0	64.2	55.1	48.5	36.7	30.1	24.9	23.6	24.9
72.5°	85.2	74.7	61.6	48.5	43.3	36.7	28.9	22.2	18.4	17.0	18.4
75°	65.5	57.6	47.2	35.4	31.4	27.5	19.7	15.7	13.1	11.8	13.1
77.5°	45.9	40.6	32.8	26.2	22.2	19.7	14.4	10.5	9.2	7.9	9.2
80°	31.4	27.5	22.2	17.0	14.4	11.8	9.2	6.5	5.2	5.2	5.2
82.5°	21.0	17.0	13.1	10.5	9.2	7.9	5.2	4.0	4.0	2.7	2.7
85°	11.8	10.5	7.9	6.5	5.2	4.0	2.7	2.7	1.3	1.3	1.3
87.5°	5.2	4.0	2.7	2.7	1.3	1.3	1.3	1.3	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°	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0
2.5°	856.0	852.0	857.2	852.0	849.4	852.0	849.4	857.2	850.7	845.5	850.7
5°	854.7	849.4	854.7	850.7	846.8	848.1	845.5	853.3	845.5	841.5	844.2
7.5°	852.0	848.1	850.7	846.8	842.8	844.2	841.5	848.1	840.2	836.3	838.9
10°	848.1	844.2	845.5	842.8	838.9	838.9	836.3	841.5	832.3	827.1	829.8
12.5°	842.8	837.6	840.2	836.3	831.0	831.0	828.4	832.3	823.1	817.9	819.3
15°	836.3	831.0	831.0	827.1	821.9	821.9	816.6	820.6	810.1	804.8	804.8
17.5°	828.4	821.9	821.9	817.9	811.4	810.1	806.1	810.1	798.3	793.0	793.0
20°	816.6	811.4	810.1	807.4	800.9	799.6	794.4	795.7	786.5	782.5	781.2
22.5°	800.9	795.7	796.9	793.0	787.8	786.5	781.2	785.2	776.0	772.0	773.4
25°	773.4	770.7	773.4	772.0	768.2	768.2	765.5	768.2	760.3	757.6	759.0
27.5°	741.9	740.6	741.9	741.9	739.3	739.3	739.3	743.3	735.4	734.1	734.1
30°	696.0	696.0	697.3	698.7	698.7	701.3	700.0	705.2	700.0	697.3	700.0
32.5°	635.7	641.0	644.9	644.9	644.9	647.6	650.1	654.1	648.9	650.1	650.1
35°	567.6	571.5	574.1	580.7	576.8	585.9	588.6	593.8	592.5	595.1	593.8
37.5°	491.6	496.8	502.1	511.3	509.9	520.4	525.6	536.1	533.5	538.7	541.3
40°	420.8	428.6	436.5	443.1	448.3	458.8	469.3	482.4	486.3	490.2	491.6
42.5°	352.6	360.5	373.6	382.8	390.7	407.7	422.1	437.8	441.8	449.6	452.2
45°	297.5	304.1	319.9	331.6	338.2	363.1	380.1	399.8	406.4	415.6	419.4
47.5°	246.4	258.2	273.9	288.4	297.5	323.7	346.1	367.0	376.2	386.7	391.9
50°	201.9	215.0	236.0	249.0	262.2	291.0	315.9	338.2	347.4	359.1	364.4
52.5°	165.2	179.6	199.3	213.6	228.1	258.2	284.4	305.4	317.2	325.1	332.9
55°	129.8	145.5	165.2	180.9	192.7	225.5	247.7	268.7	276.6	283.1	287.1
57.5°	100.9	112.7	132.4	145.5	159.9	188.7	211.0	226.8	233.3	241.2	243.8
60°	78.7	90.4	108.8	121.9	135.0	162.5	184.8	200.6	207.1	213.6	217.6
62.5°	62.9	74.7	91.7	103.6	115.4	140.3	159.9	175.7	183.5	190.1	194.0
65°	49.8	60.3	74.7	86.5	95.7	117.9	137.6	152.0	159.9	166.5	170.4
67.5°	39.3	48.5	61.6	69.5	78.7	97.0	114.1	127.1	133.7	141.6	145.5
70°	30.1	36.7	48.5	55.1	61.6	77.3	90.4	103.6	110.1	115.4	117.9
72.5°	22.2	27.5	36.7	41.9	45.9	59.0	69.5	78.7	83.9	89.2	91.7
75°	15.7	19.7	26.2	30.1	32.8	41.9	51.1	57.6	61.6	65.5	69.5
77.5°	10.5	13.1	17.0	19.7	22.2	28.9	34.1	39.3	43.3	47.2	48.5
80°	6.5	9.2	11.8	13.1	14.4	18.4	23.6	26.2	28.9	31.4	32.8
82.5°	4.0	5.2	6.5	7.9	9.2	11.8	14.4	17.0	18.4	21.0	22.2
85°	1.3	2.7	2.7	4.0	4.0	6.5	7.9	9.2	10.5	11.8	13.1
87.5°	0.0	0.0	1.3	1.3	1.3	1.3	2.7	2.7	2.7	2.7	2.7
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	852.0	852.0	852.0	852.0	852.0	852.0	852.0	852.0
2.5°	856.0	852.0	849.4	848.1	857.2	845.5	850.7	852.0
5°	850.7	846.8	844.2	842.8	850.7	840.2	844.2	846.8
7.5°	842.8	840.2	836.3	835.0	842.8	831.0	836.3	837.6
10°	833.7	829.8	827.1	825.8	832.3	820.6	825.8	825.8
12.5°	821.9	819.3	814.0	814.0	819.3	808.8	812.7	812.7
15°	806.1	803.6	798.3	798.3	803.6	793.0	796.9	796.9
17.5°	793.0	790.4	786.5	785.2	790.4	779.9	783.9	782.5
20°	782.5	779.9	774.7	774.7	778.6	768.2	772.0	772.0
22.5°	773.4	772.0	766.8	766.8	772.0	761.6	764.2	761.6
25°	759.0	757.6	752.4	753.7	756.3	745.8	749.8	747.1
27.5°	735.4	735.4	730.1	728.8	732.7	723.6	726.2	724.9
30°	698.7	700.0	693.4	693.4	694.7	686.8	690.8	689.5
32.5°	648.9	650.1	644.9	643.6	647.6	641.0	643.6	643.6
35°	593.8	595.1	591.1	591.1	595.1	591.1	591.1	589.9
37.5°	538.7	541.3	538.7	540.0	542.7	538.7	541.3	540.0
40°	494.2	496.8	492.9	495.5	498.1	494.2	498.1	495.5
42.5°	453.5	457.5	454.8	457.5	460.1	457.5	460.1	456.2
45°	423.4	426.0	424.7	426.0	428.6	427.3	428.6	427.3
47.5°	394.5	399.8	397.2	399.8	403.7	401.1	403.7	399.8
50°	368.3	372.3	371.0	373.6	374.9	373.6	376.2	372.3
52.5°	334.2	338.2	336.9	336.9	339.5	336.9	339.5	336.9
55°	289.7	291.0	291.0	292.3	291.0	289.7	291.0	288.4
57.5°	246.4	249.0	245.1	249.0	247.7	246.4	246.4	243.8
60°	218.9	222.8	220.2	222.8	221.5	221.5	221.5	220.2
62.5°	196.6	199.3	196.6	197.9	197.9	197.9	196.6	195.3
65°	171.7	175.7	173.0	174.4	173.0	171.7	173.0	171.7
67.5°	146.8	148.1	148.1	146.8	146.8	146.8	146.8	144.2
70°	119.3	120.6	119.3	121.9	120.6	119.3	120.6	117.9
72.5°	93.0	94.4	93.0	94.4	93.0	93.0	93.0	93.0
75°	69.5	70.8	70.8	70.8	70.8	70.8	68.2	70.8
77.5°	49.8	49.8	49.8	51.1	49.8	49.8	49.8	49.8
80°	34.1	34.1	34.1	35.4	34.1	35.4	34.1	35.4
82.5°	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2
85°	11.8	13.1	13.1	11.8	11.8	11.8	11.8	11.8
87.5°	2.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)