

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P973189

Luminaire Tested: FLR2-14-20HE-L840-CP080

Issue Date: 3/13/2025

**Test Information**

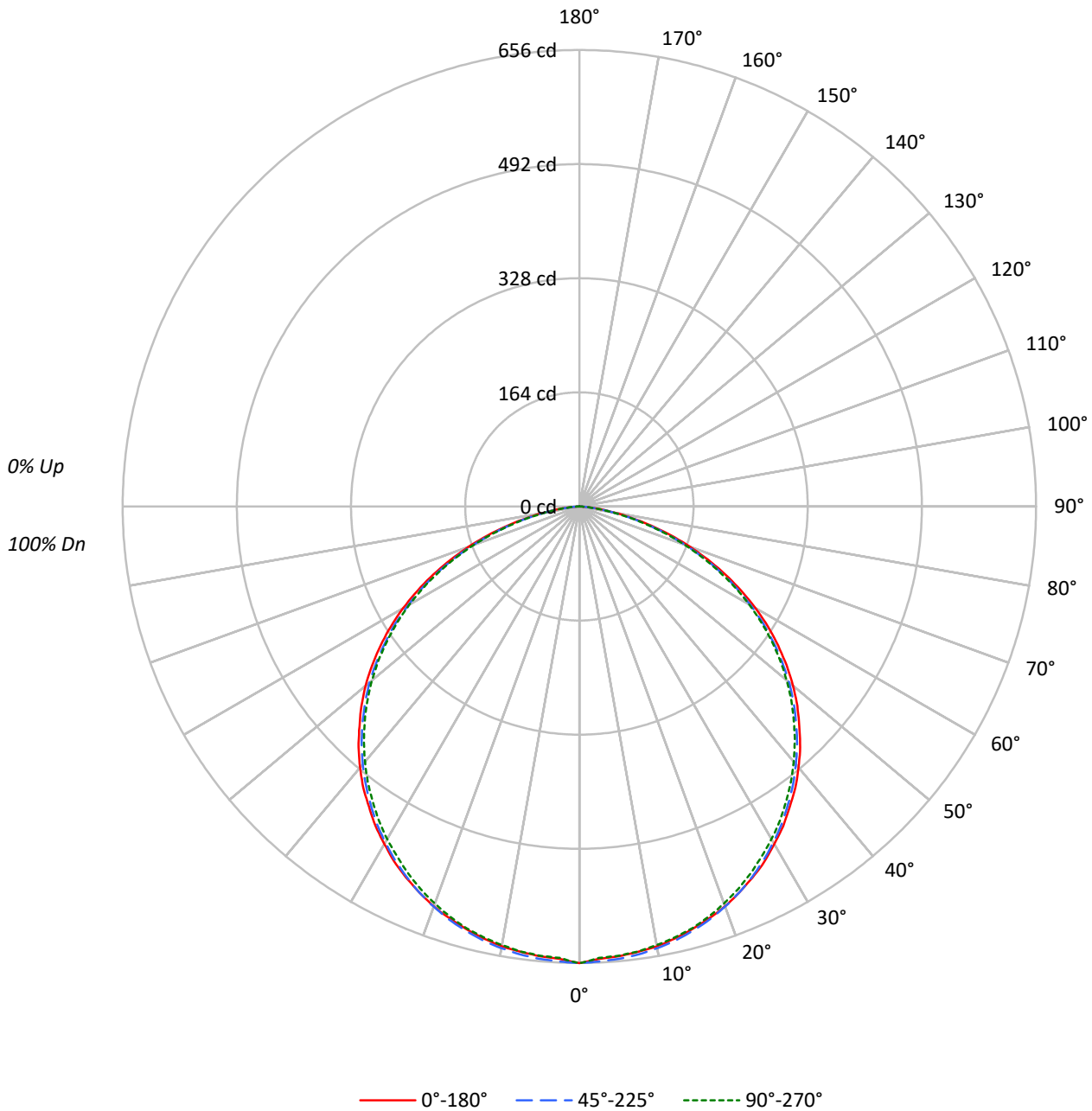
Test Method: LM-79-2019  
Report Number: P973189  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-281-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/13/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR2-14-20HE-L840-CP080  
Description: 1\*4 FLR-2.0 2000 Lumen High Efficacy at 4000CCT & 80CRI with Clear Polycarbonate (0.080" thickness)  
  
Light Source:  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1837.2 lumens  
Efficiency: N/A  
Efficacy: 124.1 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.25 / 1.38  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 14.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor:  
Total Harmonic Distortion (THDi):  
Frequency (hertz): 60  
Stabilization Time: HR  
Operation Time: HR  
Ambient Temperature (°C): NR  
Test Distance: 24 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									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	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	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85																												
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71																												
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60																												
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51																												
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	57	51	46	44																												
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39																												
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34																												
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30																												
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27																												
10	53	40	32	27	52	39	32	27	39	32	27	38	31	27	37	31	26	25																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1766	1766	1766
5°	1753	1763	1750
10°	1754	1762	1749
15°	1751	1758	1748
20°	1751	1753	1739
25°	1747	1744	1728
30°	1740	1732	1716
35°	1731	1717	1700
40°	1721	1700	1683
45°	1700	1676	1658
50°	1678	1647	1628
55°	1635	1597	1582
60°	1572	1528	1515
65°	1472	1429	1414
70°	1327	1274	1264
75°	1114	1056	1045
80°	809	753	733
85°	429	377	343

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1700 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.2	3.4
10°-20°	178.6	9.7
20°-30°	271.3	14.8
30°-40°	328.1	17.9
40°-50°	341.0	18.6
50°-60°	305.3	16.6
60°-70°	222.7	12.1
70°-80°	109.7	6.0
80°-90°	18.3	1.0
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°	512.0	27.9
0°-40°	840.1	45.7
0°-60°	1486.5	80.9
0°-90°	1837.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1837.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	656	656	656	656	656	
5°	649	656	653	659	648	62
15°	629	634	631	637	627	178
25°	588	592	587	590	582	271
35°	527	528	523	525	518	330
45°	447	446	440	441	436	345
55°	349	346	340	340	337	311
65°	231	228	224	223	222	228
75°	107	105	102	100	100	114
85°	14	13	12	11	11	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	656.4	656.4	656.4	656.4	656.4
2.5°	650.7	658.1	654.5	661.1	649.4
5°	648.8	655.9	652.6	658.9	648.0
7.5°	645.6	652.9	649.4	655.3	645.0
10°	642.0	648.6	644.7	650.7	640.1
12.5°	635.8	642.3	638.8	644.2	634.4
15°	628.7	634.4	631.2	636.6	627.4
17.5°	620.6	626.0	622.5	627.4	618.1
20°	611.6	615.9	612.1	616.2	607.3
22.5°	600.5	604.5	600.5	603.2	595.3
25°	588.5	591.5	587.4	590.1	582.0
27.5°	575.7	577.4	573.3	575.5	567.0
30°	560.0	561.9	557.5	560.2	552.1
32.5°	544.8	545.8	541.0	543.1	535.8
35°	526.8	527.9	522.8	524.9	517.6
37.5°	509.7	509.4	504.0	505.4	499.1
40°	489.9	489.6	483.9	485.0	479.0
42.5°	469.5	468.4	463.0	463.5	458.1
45°	446.7	446.1	440.4	441.2	435.8
47.5°	424.7	423.0	417.3	417.6	413.0
50°	400.8	398.3	393.4	392.9	388.8
52.5°	375.2	372.5	367.1	366.5	363.5
55°	348.6	345.6	340.4	339.6	337.2
57.5°	321.2	317.3	313.3	311.6	309.7
60°	292.1	288.5	283.9	282.3	281.5
62.5°	261.9	258.4	254.9	253.2	252.1
65°	231.2	228.5	224.4	222.8	222.0
67.5°	200.0	197.5	193.7	191.8	191.5
70°	168.7	166.3	161.9	160.8	160.6
72.5°	137.5	135.3	131.2	130.1	130.1
75°	107.1	105.1	101.6	100.5	100.5
77.5°	78.3	76.6	73.9	72.5	72.5
80°	52.2	51.1	48.6	47.5	47.3
82.5°	30.2	29.6	27.4	26.4	26.9
85°	13.9	13.3	12.2	10.9	11.1
87.5°	3.5	3.3	2.4	1.9	2.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)