

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: P562560

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562560
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-2HI-40-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7718.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

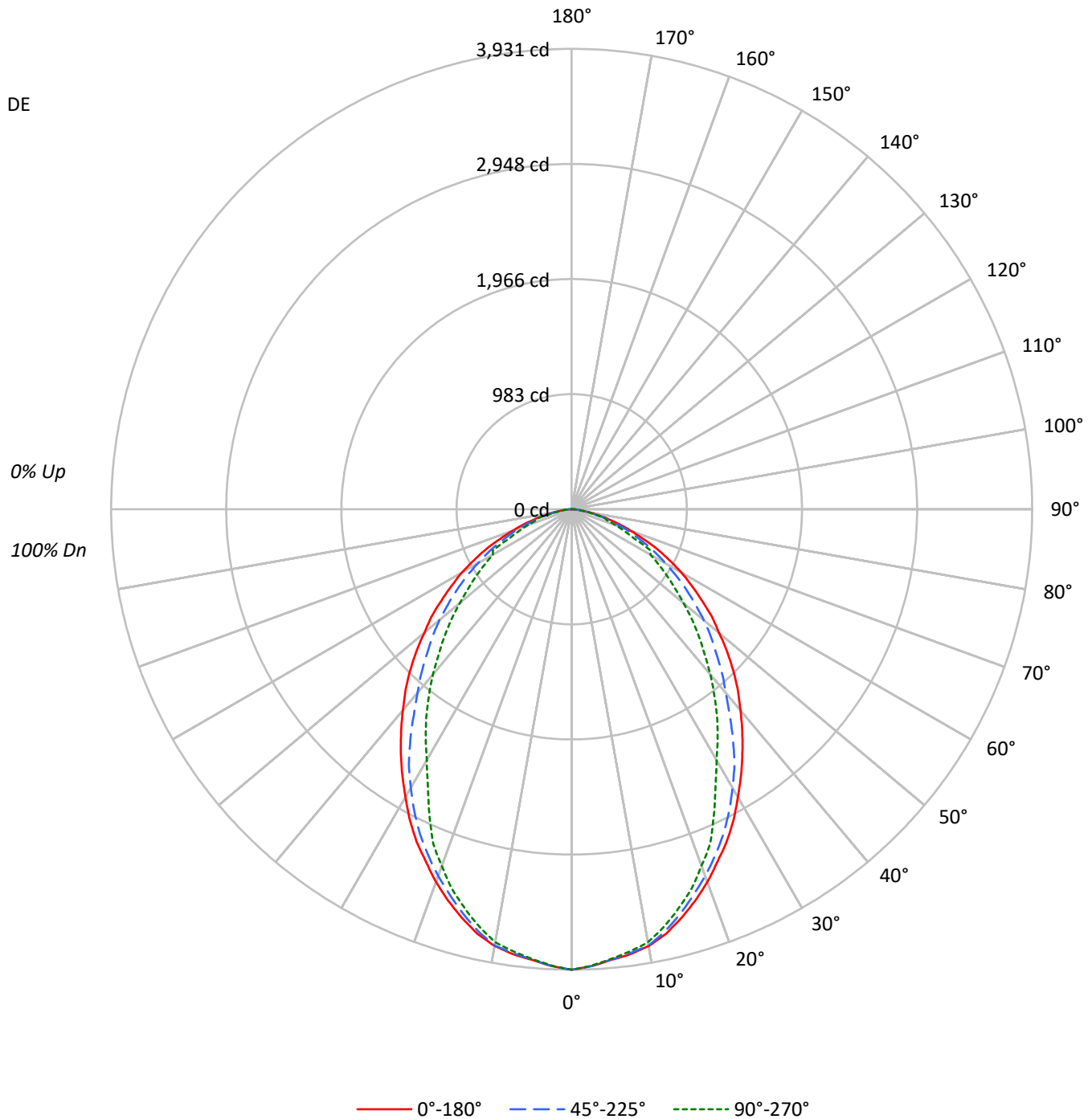
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5290	5290	5290
5°	5218	5212	5206
10°	5173	5166	5129
15°	5033	4982	4913
20°	4848	4770	4640
25°	4649	4548	4264
30°	4406	4265	3841
35°	4173	3942	3553
40°	3936	3592	3233
45°	3710	3321	2923
50°	3435	3082	2607
55°	3177	2793	2335
60°	2911	2495	2091
65°	2561	2185	1852
70°	2110	1913	1574
75°	1678	1465	1536
80°	1127	1057	986
85°	702	841	982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3710 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.0	4.7
10°-20°	1004.4	13.0
20°-30°	1390.5	18.0
30°-40°	1482.6	19.2
40°-50°	1352.6	17.5
50°-60°	1059.7	13.7
60°-70°	690.6	8.9
70°-80°	306.0	4.0
80°-90°	65.7	0.9
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°	2760.8	35.8
0°-40°	4243.4	55.0
0°-60°	6655.7	86.2
0°-90°	7718.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7718.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3931	3931	3931	3931	3931	
5°	3863	3859	3859	3854	3854	367
15°	3613	3613	3577	3541	3527	1016
25°	3132	3113	3063	2954	2872	1438
35°	2541	2522	2400	2218	2163	1588
45°	1950	1909	1745	1600	1536	1502
55°	1354	1314	1191	1050	995	1215
65°	804	759	686	700	582	793
75°	323	300	282	268	295	346
85°	46	50	54	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3931.4	3931.4	3931.4	3931.4	3931.4
2.5°	3904.2	3904.2	3904.2	3899.6	3899.6
5°	3863.3	3858.7	3858.7	3854.2	3854.2
7.5°	3831.5	3826.9	3822.4	3817.8	3808.7
10°	3786.0	3786.0	3781.5	3758.7	3754.2
12.5°	3713.3	3708.7	3690.6	3658.7	3649.7
15°	3613.3	3613.3	3576.9	3540.6	3526.9
17.5°	3504.2	3499.7	3454.2	3417.9	3399.7
20°	3386.0	3377.0	3331.5	3272.4	3240.6
22.5°	3254.2	3254.2	3199.7	3122.4	3090.6
25°	3131.5	3113.3	3063.3	2954.3	2872.5
27.5°	2990.6	2963.4	2908.8	2754.3	2658.8
30°	2836.1	2822.5	2745.2	2545.2	2472.5
32.5°	2690.7	2667.9	2586.1	2377.0	2318.0
35°	2540.7	2522.5	2399.8	2218.0	2163.4
37.5°	2390.7	2368.0	2213.4	2068.0	1999.8
40°	2240.7	2213.4	2045.3	1913.5	1840.7
42.5°	2099.8	2063.4	1899.8	1758.9	1677.1
45°	1949.8	1908.9	1745.3	1599.8	1536.2
47.5°	1799.8	1763.5	1613.5	1463.5	1390.8
50°	1640.8	1608.9	1472.6	1322.6	1245.3
52.5°	1508.9	1459.0	1327.1	1177.2	1113.5
55°	1354.4	1313.5	1190.8	1049.9	995.4
57.5°	1213.5	1172.6	1059.0	927.2	881.7
60°	1081.7	1022.6	927.2	813.6	777.2
62.5°	936.3	890.8	809.0	713.6	759.0
65°	804.5	759.0	686.3	699.9	581.8
67.5°	659.0	636.3	572.7	509.0	490.9
70°	536.3	509.0	486.3	418.1	400.0
72.5°	427.2	400.0	368.1	331.8	318.2
75°	322.7	300.0	281.8	268.2	295.4
77.5°	222.7	213.6	200.0	186.3	181.8
80°	145.4	140.9	136.4	131.8	127.3
82.5°	86.4	86.4	86.4	86.4	86.4
85°	45.5	50.0	54.5	59.1	63.6
87.5°	27.3	27.3	31.8	36.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)