

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: P563542

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563542
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-LD4-3STD-40-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8663.0 lumens
Efficiency: N/A
Efficacy: 86.7 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

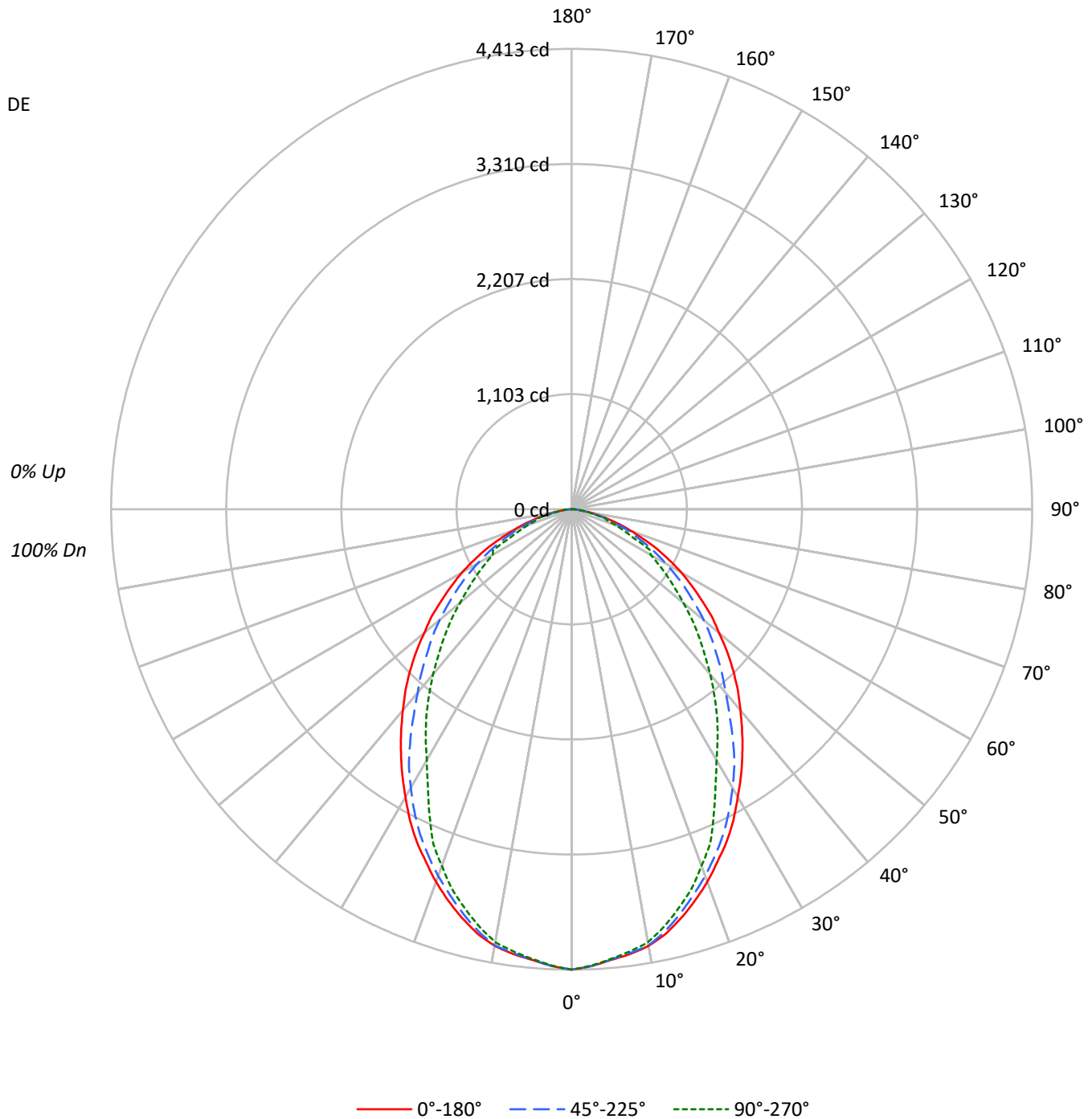
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5937	5937	5937
5°	5857	5850	5843
10°	5806	5799	5757
15°	5649	5593	5514
20°	5442	5354	5208
25°	5218	5105	4787
30°	4946	4787	4312
35°	4684	4424	3989
40°	4418	4032	3629
45°	4164	3728	3281
50°	3855	3460	2926
55°	3566	3135	2621
60°	3267	2801	2348
65°	2875	2452	2079
70°	2368	2148	1766
75°	1883	1644	1724
80°	1265	1185	1106
85°	787	945	1102

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4164 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	410.8	4.7
10°-20°	1127.3	13.0
20°-30°	1560.7	18.0
30°-40°	1664.2	19.2
40°-50°	1518.2	17.5
50°-60°	1189.4	13.7
60°-70°	775.2	8.9
70°-80°	343.4	4.0
80°-90°	73.7	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°	3098.8	35.8
0°-40°	4763.0	55.0
0°-60°	7470.6	86.2
0°-90°	8663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8663.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4413	4413	4413	4413	4413	
5°	4336	4331	4331	4326	4326	412
15°	4056	4056	4015	3974	3959	1140
25°	3515	3494	3438	3316	3224	1614
35°	2852	2831	2694	2490	2428	1783
45°	2189	2143	1959	1796	1724	1686
55°	1520	1474	1337	1178	1117	1364
65°	903	852	770	786	653	890
75°	362	337	316	301	332	388
85°	51	56	61	66	71	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4412.8	4412.8	4412.8	4412.8	4412.8
2.5°	4382.2	4382.2	4382.2	4377.1	4377.1
5°	4336.3	4331.2	4331.2	4326.1	4326.1
7.5°	4300.6	4295.5	4290.4	4285.3	4275.1
10°	4249.6	4249.6	4244.5	4219.0	4213.9
12.5°	4167.9	4162.8	4142.4	4106.7	4096.5
15°	4055.7	4055.7	4014.9	3974.1	3958.8
17.5°	3933.3	3928.2	3877.2	3836.3	3815.9
20°	3800.6	3790.4	3739.4	3673.1	3637.4
22.5°	3652.7	3652.7	3591.5	3504.7	3469.0
25°	3514.9	3494.5	3438.4	3316.0	3224.2
27.5°	3356.8	3326.2	3265.0	3091.5	2984.4
30°	3183.3	3168.0	3081.3	2856.9	2775.2
32.5°	3020.1	2994.6	2902.8	2668.1	2601.8
35°	2851.8	2831.3	2693.6	2489.5	2428.3
37.5°	2683.4	2657.9	2484.4	2321.2	2244.7
40°	2515.1	2484.4	2295.7	2147.7	2066.1
42.5°	2356.9	2316.1	2132.4	1974.3	1882.5
45°	2188.6	2142.6	1959.0	1795.7	1724.3
47.5°	2020.2	1979.4	1811.0	1642.7	1561.1
50°	1841.6	1805.9	1652.9	1484.5	1397.8
52.5°	1693.7	1637.6	1489.6	1321.3	1249.9
55°	1520.3	1474.3	1336.6	1178.5	1117.2
57.5°	1362.1	1316.2	1188.7	1040.7	989.7
60°	1214.2	1147.8	1040.7	913.2	872.4
62.5°	1050.9	999.9	908.1	800.9	852.0
65°	903.0	852.0	770.3	785.6	653.0
67.5°	739.7	714.2	642.8	571.4	551.0
70°	602.0	571.4	545.9	469.3	448.9
72.5°	479.5	448.9	413.2	372.4	357.1
75°	362.2	336.7	316.3	301.0	331.6
77.5°	250.0	239.8	224.5	209.2	204.1
80°	163.2	158.1	153.0	147.9	142.8
82.5°	96.9	96.9	96.9	96.9	96.9
85°	51.0	56.1	61.2	66.3	71.4
87.5°	30.6	30.6	35.7	40.8	45.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)