

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: P564180

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564180
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-LD4-4STD-50-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12571.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

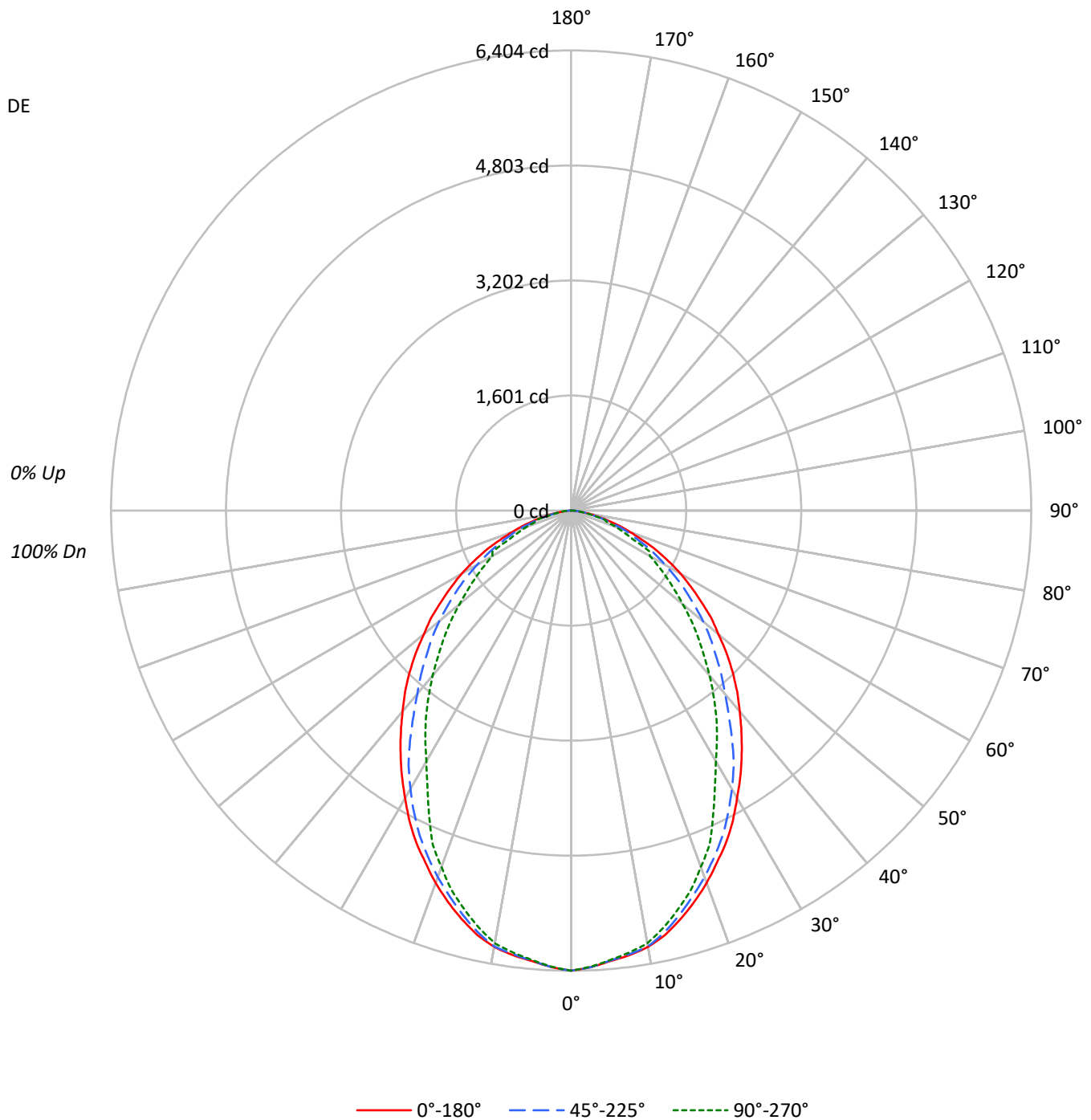
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8616	8616	8616
5°	8499	8489	8479
10°	8425	8415	8354
15°	8198	8115	8002
20°	7897	7770	7558
25°	7572	7407	6946
30°	7177	6947	6257
35°	6797	6420	5788
40°	6410	5851	5266
45°	6043	5409	4761
50°	5594	5021	4246
55°	5175	4550	3803
60°	4741	4064	3407
65°	4172	3559	3017
70°	3436	3116	2563
75°	2732	2386	2502
80°	1836	1721	1606
85°	1142	1371	1599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6043 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.1	4.7
10°-20°	1635.9	13.0
20°-30°	2264.8	18.0
30°-40°	2414.9	19.2
40°-50°	2203.1	17.5
50°-60°	1726.0	13.7
60°-70°	1124.9	8.9
70°-80°	498.4	4.0
80°-90°	107.0	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°	4496.8	35.8
0°-40°	6911.7	55.0
0°-60°	10840.7	86.2
0°-90°	12571.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12571.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6404	6404	6404	6404	6404	
5°	6292	6285	6285	6278	6278	597
15°	5885	5885	5826	5767	5745	1655
25°	5101	5071	4990	4812	4679	2342
35°	4138	4109	3909	3613	3524	2587
45°	3176	3109	2843	2606	2502	2446
55°	2206	2139	1940	1710	1621	1979
65°	1310	1236	1118	1140	948	1291
75°	526	489	459	437	481	563
85°	74	81	89	96	104	103
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6403.5	6403.5	6403.5	6403.5	6403.5
2.5°	6359.1	6359.1	6359.1	6351.7	6351.7
5°	6292.5	6285.1	6285.1	6277.7	6277.7
7.5°	6240.6	6233.2	6225.8	6218.4	6203.6
10°	6166.6	6166.6	6159.2	6122.2	6114.8
12.5°	6048.2	6040.8	6011.1	5959.3	5944.5
15°	5885.3	5885.3	5826.1	5766.9	5744.6
17.5°	5707.6	5700.2	5626.2	5567.0	5537.4
20°	5515.2	5500.3	5426.3	5330.1	5278.3
22.5°	5300.5	5300.5	5211.6	5085.8	5034.0
25°	5100.6	5071.0	4989.5	4811.9	4678.6
27.5°	4871.1	4826.7	4737.8	4486.2	4330.7
30°	4619.4	4597.2	4471.3	4145.6	4027.2
32.5°	4382.5	4345.5	4212.2	3871.7	3775.5
35°	4138.2	4108.6	3908.7	3612.6	3523.8
37.5°	3893.9	3856.9	3605.2	3368.3	3257.3
40°	3649.6	3605.2	3331.3	3116.6	2998.2
42.5°	3420.1	3360.9	3094.4	2864.9	2731.7
45°	3175.8	3109.2	2842.7	2605.8	2502.2
47.5°	2931.5	2872.3	2628.0	2383.7	2265.3
50°	2672.4	2620.6	2398.5	2154.2	2028.4
52.5°	2457.8	2376.3	2161.6	1917.3	1813.7
55°	2206.1	2139.4	1939.6	1710.1	1621.2
57.5°	1976.6	1909.9	1724.9	1510.2	1436.2
60°	1761.9	1665.7	1510.2	1325.1	1265.9
62.5°	1525.0	1451.0	1317.7	1162.3	1236.3
65°	1310.3	1236.3	1117.8	1140.0	947.6
67.5°	1073.4	1036.4	932.8	829.1	799.5
70°	873.5	829.1	792.1	681.1	651.5
72.5°	695.9	651.5	599.6	540.4	518.2
75°	525.6	488.6	459.0	436.8	481.2
77.5°	362.7	347.9	325.7	303.5	296.1
80°	236.9	229.5	222.1	214.7	207.3
82.5°	140.7	140.7	140.7	140.7	140.7
85°	74.0	81.4	88.8	96.2	103.6
87.5°	44.4	44.4	51.8	59.2	66.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)