

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: P563670

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563670
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-LD4-4HI-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13970.0 lumens
Efficiency: N/A
Efficacy: 80.8 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

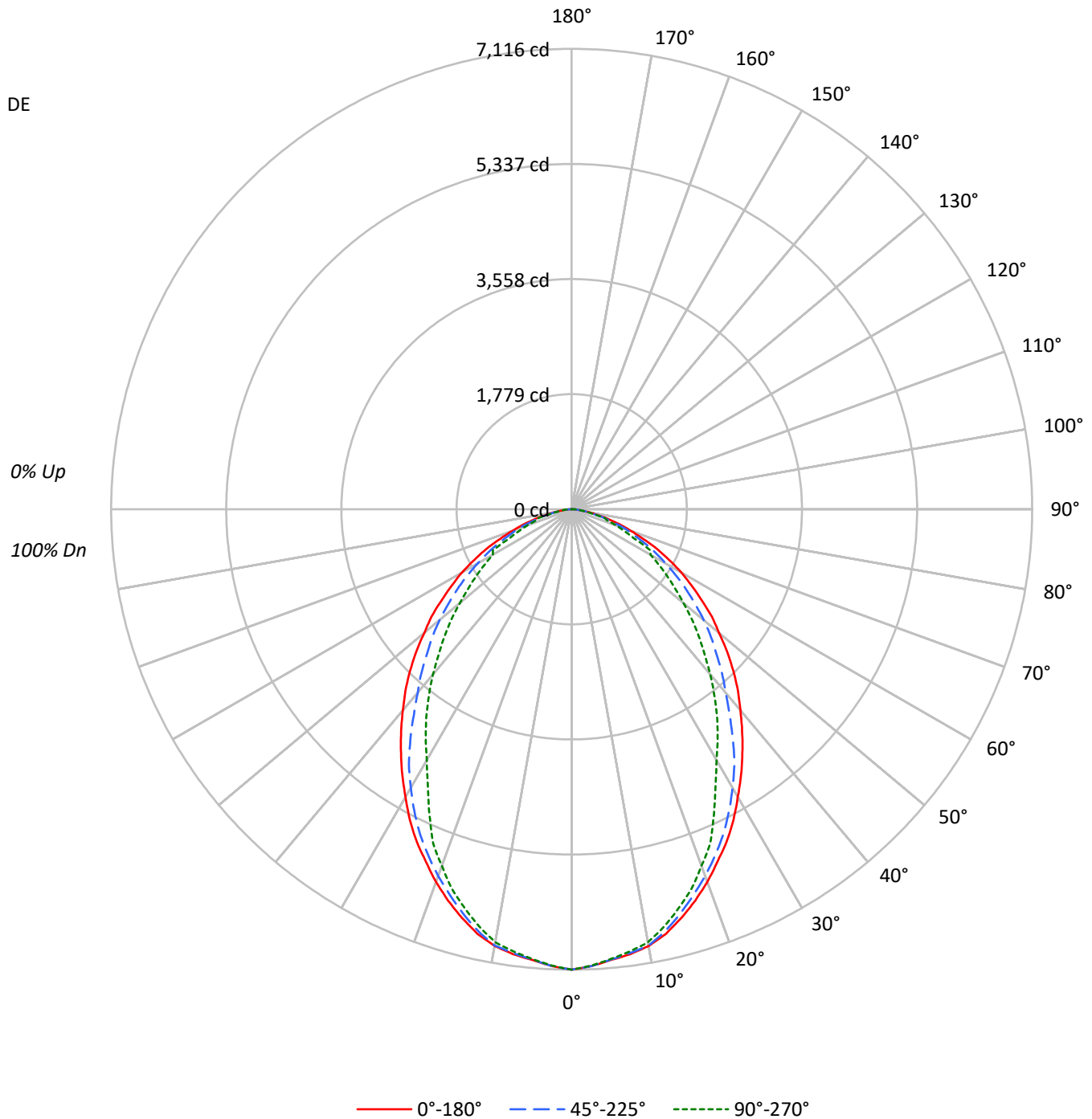
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	9575	9575	9575
5°	9445	9433	9422
10°	9363	9351	9284
15°	9110	9019	8893
20°	8776	8634	8399
25°	8415	8232	7719
30°	7976	7720	6953
35°	7554	7135	6432
40°	7124	6502	5852
45°	6716	6011	5291
50°	6217	5579	4718
55°	5751	5056	4226
60°	5269	4516	3786
65°	4636	3955	3352
70°	3819	3463	2848
75°	3036	2652	2780
80°	2040	1912	1784
85°	1271	1524	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6716 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	662.4	4.7
10°-20°	1817.9	13.0
20°-30°	2516.8	18.0
30°-40°	2683.7	19.2
40°-50°	2448.3	17.5
50°-60°	1918.0	13.7
60°-70°	1250.1	8.9
70°-80°	553.9	4.0
80°-90°	118.9	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°	4997.2	35.8
0°-40°	7680.8	55.0
0°-60°	12047.2	86.2
0°-90°	13970.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13970.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7116	7116	7116	7116	7116	
5°	6993	6984	6984	6976	6976	664
15°	6540	6540	6474	6409	6384	1839
25°	5668	5635	5545	5347	5199	2602
35°	4599	4566	4344	4015	3916	2875
45°	3529	3455	3159	2896	2781	2719
55°	2452	2378	2155	1900	1802	2199
65°	1456	1374	1242	1267	1053	1435
75°	584	543	510	485	535	626
85°	82	90	99	107	115	114
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7116.1	7116.1	7116.1	7116.1	7116.1
2.5°	7066.8	7066.8	7066.8	7058.5	7058.5
5°	6992.7	6984.5	6984.5	6976.3	6976.3
7.5°	6935.1	6926.9	6918.7	6910.5	6894.0
10°	6852.9	6852.9	6844.6	6803.5	6795.3
12.5°	6721.2	6713.0	6680.1	6622.5	6606.1
15°	6540.3	6540.3	6474.4	6408.6	6384.0
17.5°	6342.8	6334.6	6252.3	6186.5	6153.6
20°	6128.9	6112.5	6030.2	5923.3	5865.7
22.5°	5890.3	5890.3	5791.6	5651.8	5594.2
25°	5668.2	5635.3	5544.8	5347.4	5199.3
27.5°	5413.2	5363.8	5265.1	4985.4	4812.6
30°	5133.5	5108.8	4969.0	4607.0	4475.3
32.5°	4870.2	4829.1	4681.0	4302.6	4195.6
35°	4598.7	4565.8	4343.7	4014.6	3915.9
37.5°	4327.3	4286.1	4006.4	3743.2	3619.8
40°	4055.8	4006.4	3702.0	3463.5	3331.8
42.5°	3800.8	3734.9	3438.8	3183.7	3035.7
45°	3529.3	3455.2	3159.1	2895.8	2780.6
47.5°	3257.8	3192.0	2920.5	2649.0	2517.4
50°	2969.9	2912.3	2665.5	2394.0	2254.1
52.5°	2731.3	2640.8	2402.2	2130.7	2015.6
55°	2451.6	2377.5	2155.4	1900.4	1801.7
57.5°	2196.5	2122.5	1916.8	1678.3	1596.0
60°	1958.0	1851.0	1678.3	1472.6	1406.8
62.5°	1694.7	1612.4	1464.4	1291.6	1373.9
65°	1456.1	1373.9	1242.2	1266.9	1053.0
67.5°	1192.9	1151.7	1036.6	921.4	888.5
70°	970.8	921.4	880.3	756.9	724.0
72.5°	773.3	724.0	666.4	600.6	575.9
75°	584.1	543.0	510.1	485.4	534.7
77.5°	403.1	386.7	362.0	337.3	329.1
80°	263.3	255.0	246.8	238.6	230.3
82.5°	156.3	156.3	156.3	156.3	156.3
85°	82.3	90.5	98.7	106.9	115.2
87.5°	49.4	49.4	57.6	65.8	74.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)