

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: P563728

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563728
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-40-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 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: 15111.0 lumens
Efficiency: N/A
Efficacy: 87.4 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

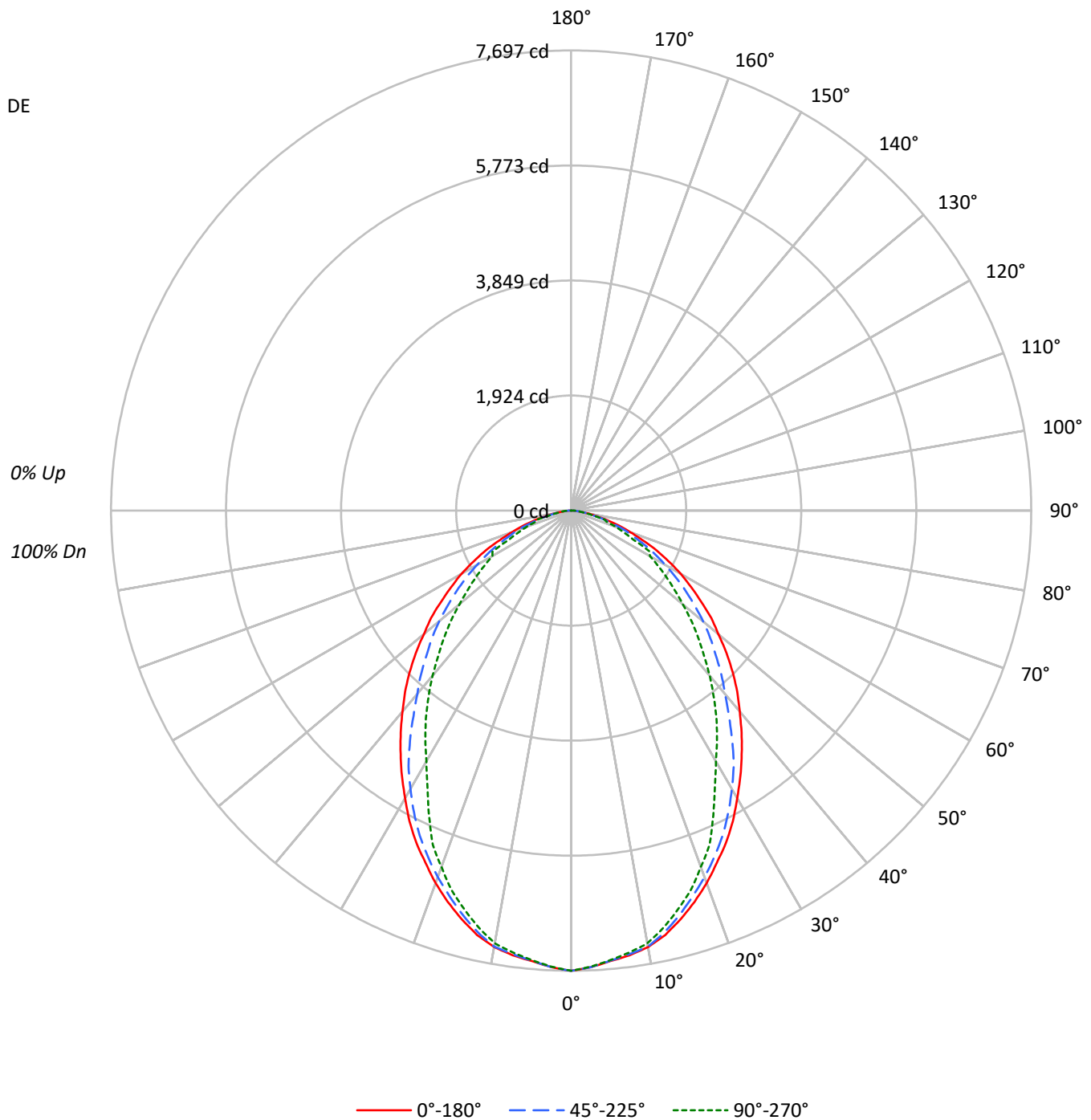
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10357	10357	10357
5°	10216	10204	10192
10°	10127	10115	10042
15°	9854	9755	9619
20°	9492	9339	9085
25°	9102	8904	8349
30°	8627	8350	7521
35°	8171	7717	6957
40°	7705	7033	6330
45°	7264	6502	5723
50°	6724	6035	5104
55°	6221	5469	4571
60°	5699	4885	4095
65°	5015	4278	3626
70°	4131	3746	3081
75°	3284	2868	3007
80°	2207	2069	1931
85°	1374	1649	1924

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7264 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	716.5	4.7
10°-20°	1966.4	13.0
20°-30°	2722.4	18.0
30°-40°	2902.9	19.2
40°-50°	2648.2	17.5
50°-60°	2074.7	13.7
60°-70°	1352.2	8.9
70°-80°	599.1	4.0
80°-90°	128.6	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°	5405.3	35.8
0°-40°	8308.2	55.0
0°-60°	13031.1	86.2
0°-90°	15111.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15111.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7697	7697	7697	7697	7697	
5°	7564	7555	7555	7546	7546	718
15°	7074	7074	7003	6932	6905	1989
25°	6131	6096	5998	5784	5624	2815
35°	4974	4939	4698	4342	4236	3110
45°	3818	3737	3417	3132	3008	2941
55°	2652	2572	2331	2056	1949	2378
65°	1575	1486	1344	1370	1139	1552
75°	632	587	552	525	578	677
85°	89	98	107	116	125	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7697.3	7697.3	7697.3	7697.3	7697.3
2.5°	7643.9	7643.9	7643.9	7635.1	7635.1
5°	7563.9	7555.0	7555.0	7546.1	7546.1
7.5°	7501.6	7492.7	7483.8	7474.9	7457.1
10°	7412.6	7412.6	7403.7	7359.2	7350.3
12.5°	7270.2	7261.3	7225.7	7163.4	7145.6
15°	7074.4	7074.4	7003.2	6932.1	6905.4
17.5°	6860.9	6852.0	6763.0	6691.8	6656.2
20°	6629.5	6611.7	6522.7	6407.0	6344.7
22.5°	6371.4	6371.4	6264.7	6113.4	6051.1
25°	6131.2	6095.6	5997.7	5784.1	5624.0
27.5°	5855.3	5801.9	5695.1	5392.6	5205.7
30°	5552.8	5526.1	5374.8	4983.2	4840.9
32.5°	5268.0	5223.5	5063.3	4654.0	4538.3
35°	4974.4	4938.8	4698.5	4342.5	4235.8
37.5°	4680.7	4636.2	4333.6	4048.9	3915.4
40°	4387.0	4333.6	4004.4	3746.3	3604.0
42.5°	4111.2	4040.0	3719.6	3443.8	3283.6
45°	3817.5	3737.4	3417.1	3132.3	3007.7
47.5°	3523.9	3452.7	3159.0	2865.4	2723.0
50°	3212.4	3150.1	2883.2	2589.5	2438.2
52.5°	2954.4	2856.5	2598.4	2304.8	2180.2
55°	2651.8	2571.7	2331.4	2055.6	1948.8
57.5°	2375.9	2295.9	2073.4	1815.3	1726.3
60°	2117.9	2002.2	1815.3	1592.9	1521.7
62.5°	1833.1	1744.1	1584.0	1397.1	1486.1
65°	1575.1	1486.1	1343.7	1370.4	1139.0
67.5°	1290.3	1245.8	1121.2	996.6	961.1
70°	1050.0	996.6	952.2	818.7	783.1
72.5°	836.5	783.1	720.8	649.6	622.9
75°	631.8	587.3	551.7	525.0	578.4
77.5°	436.0	418.2	391.5	364.8	355.9
80°	284.8	275.9	267.0	258.1	249.2
82.5°	169.1	169.1	169.1	169.1	169.1
85°	89.0	97.9	106.8	115.7	124.6
87.5°	53.4	53.4	62.3	71.2	80.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)