

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: P563777

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563777
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-50-UNV-81-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18682.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

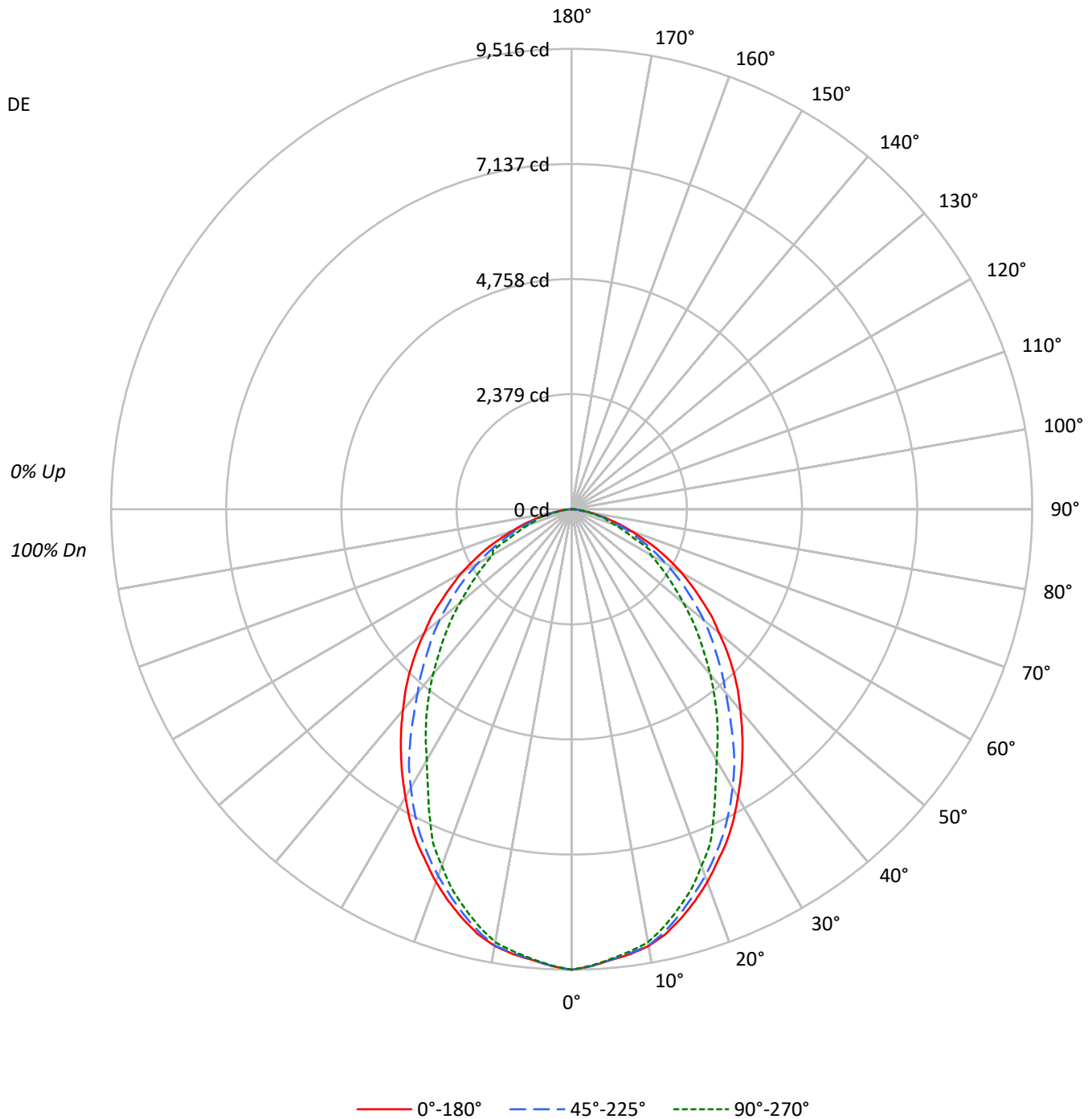
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	12804	12804	12804
5°	12630	12615	12600
10°	12521	12506	12415
15°	12183	12060	11892
20°	11736	11547	11231
25°	11253	11008	10322
30°	10666	10324	9298
35°	10101	9541	8601
40°	9526	8695	7826
45°	8981	8039	7076
50°	8313	7461	6310
55°	7691	6762	5652
60°	7046	6039	5063
65°	6200	5289	4483
70°	5107	4631	3808
75°	4061	3546	3717
80°	2728	2557	2386
85°	1698	2038	2377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8981 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	885.8	4.7
10°-20°	2431.1	13.0
20°-30°	3365.7	18.0
30°-40°	3588.9	19.2
40°-50°	3274.1	17.5
50°-60°	2565.0	13.7
60°-70°	1671.7	8.9
70°-80°	740.6	4.0
80°-90°	159.0	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°	6682.7	35.8
0°-40°	10271.6	55.0
0°-60°	16110.6	86.2
0°-90°	18682.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18682.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9516	9516	9516	9516	9516	
5°	9351	9340	9340	9329	9329	888
15°	8746	8746	8658	8570	8537	2459
25°	7580	7536	7415	7151	6953	3480
35°	6150	6106	5809	5369	5237	3845
45°	4720	4621	4225	3873	3718	3636
55°	3278	3180	2882	2541	2409	2941
65°	1947	1837	1661	1694	1408	1919
75°	781	726	682	649	715	837
85°	110	121	132	143	154	153
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9516.4	9516.4	9516.4	9516.4	9516.4
2.5°	9450.4	9450.4	9450.4	9439.4	9439.4
5°	9351.3	9340.3	9340.3	9329.3	9329.3
7.5°	9274.3	9263.3	9252.3	9241.3	9219.3
10°	9164.3	9164.3	9153.3	9098.3	9087.3
12.5°	8988.3	8977.3	8933.3	8856.3	8834.3
15°	8746.3	8746.3	8658.2	8570.2	8537.2
17.5°	8482.2	8471.2	8361.2	8273.2	8229.2
20°	8196.2	8174.2	8064.2	7921.1	7844.1
22.5°	7877.1	7877.1	7745.1	7558.1	7481.1
25°	7580.1	7536.1	7415.1	7151.0	6953.0
27.5°	7239.0	7173.0	7041.0	6667.0	6435.9
30°	6865.0	6832.0	6645.0	6160.9	5984.9
32.5°	6512.9	6457.9	6259.9	5753.8	5610.8
35°	6149.9	6105.9	5808.8	5368.8	5236.7
37.5°	5786.8	5731.8	5357.8	5005.7	4840.7
40°	5423.8	5357.8	4950.7	4631.7	4455.6
42.5°	5082.7	4994.7	4598.7	4257.6	4059.6
45°	4719.7	4620.7	4224.6	3872.6	3718.5
47.5°	4356.6	4268.6	3905.6	3542.5	3366.5
50°	3971.6	3894.6	3564.5	3201.5	3014.4
52.5°	3652.5	3531.5	3212.5	2849.4	2695.4
55°	3278.5	3179.5	2882.4	2541.4	2409.3
57.5°	2937.4	2838.4	2563.4	2244.3	2134.3
60°	2618.4	2475.4	2244.3	1969.3	1881.3
62.5°	2266.3	2156.3	1958.3	1727.2	1837.3
65°	1947.3	1837.3	1661.2	1694.2	1408.2
67.5°	1595.2	1540.2	1386.2	1232.2	1188.2
70°	1298.2	1232.2	1177.2	1012.1	968.1
72.5°	1034.1	968.1	891.1	803.1	770.1
75°	781.1	726.1	682.1	649.1	715.1
77.5°	539.1	517.1	484.1	451.1	440.1
80°	352.1	341.0	330.0	319.0	308.0
82.5°	209.0	209.0	209.0	209.0	209.0
85°	110.0	121.0	132.0	143.0	154.0
87.5°	66.0	66.0	77.0	88.0	99.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)