

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: P563077

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563077
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-LD4-3HI-35-UNV-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

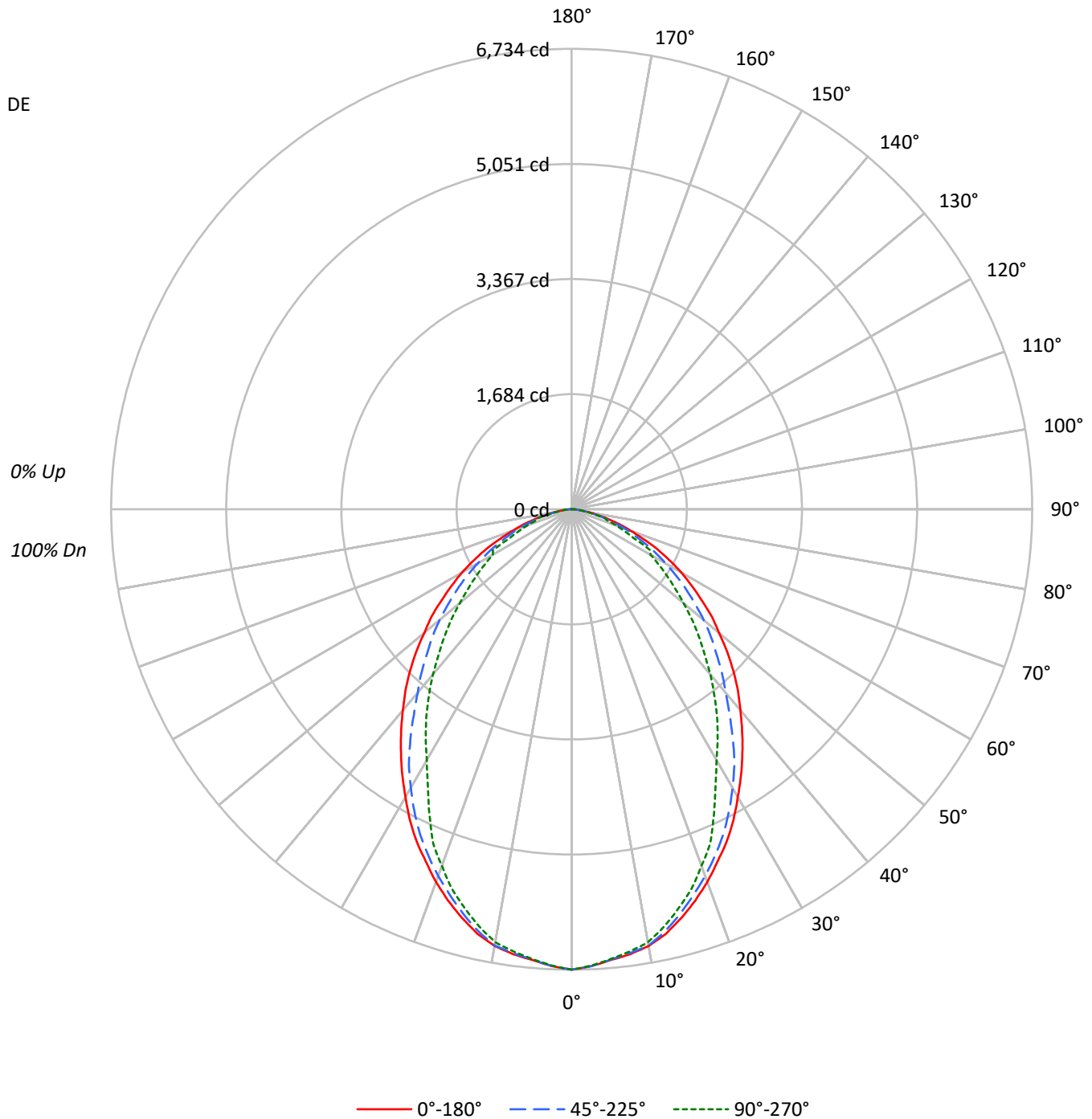
Lumens per Lamp: N/A
Luminaire Lumens: 13220.0 lumens
Efficiency: N/A
Efficacy: 102.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	9061	9061	9061
5°	8938	8927	8916
10°	8860	8849	8786
15°	8621	8534	8415
20°	8305	8171	7948
25°	7963	7790	7304
30°	7547	7306	6580
35°	7148	6752	6087
40°	6741	6153	5538
45°	6355	5688	5007
50°	5883	5280	4465
55°	5442	4785	3999
60°	4986	4274	3582
65°	4387	3742	3173
70°	3614	3277	2695
75°	2873	2509	2630
80°	1930	1810	1689
85°	1203	1442	1683

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6355 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	626.9	4.7
10°-20°	1720.3	13.0
20°-30°	2381.7	18.0
30°-40°	2539.6	19.2
40°-50°	2316.8	17.5
50°-60°	1815.1	13.7
60°-70°	1183.0	8.9
70°-80°	524.1	4.0
80°-90°	112.5	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°	4728.9	35.8
0°-40°	7268.5	55.0
0°-60°	11400.4	86.2
0°-90°	13220.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13220.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6734	6734	6734	6734	6734	
5°	6617	6610	6610	6602	6602	628
15°	6189	6189	6127	6065	6041	1740
25°	5364	5333	5247	5060	4920	2463
35°	4352	4321	4110	3799	3706	2721
45°	3340	3270	2990	2740	2631	2573
55°	2320	2250	2040	1798	1705	2081
65°	1378	1300	1176	1199	996	1358
75°	553	514	483	459	506	592
85°	78	86	93	101	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6734.1	6734.1	6734.1	6734.1	6734.1
2.5°	6687.4	6687.4	6687.4	6679.6	6679.6
5°	6617.3	6609.5	6609.5	6601.7	6601.7
7.5°	6562.8	6555.0	6547.2	6539.5	6523.9
10°	6485.0	6485.0	6477.2	6438.3	6430.5
12.5°	6360.4	6352.6	6321.5	6267.0	6251.4
15°	6189.1	6189.1	6126.9	6064.6	6041.2
17.5°	6002.3	5994.5	5916.7	5854.4	5823.2
20°	5799.9	5784.3	5706.5	5605.3	5550.8
22.5°	5574.1	5574.1	5480.7	5348.3	5293.9
25°	5363.9	5332.8	5247.1	5060.3	4920.2
27.5°	5122.6	5075.9	4982.4	4717.8	4554.3
30°	4857.9	4834.5	4702.2	4359.6	4235.1
32.5°	4608.8	4569.8	4429.7	4071.6	3970.4
35°	4351.9	4320.7	4110.5	3799.1	3705.7
37.5°	4095.0	4056.0	3791.3	3542.2	3425.4
40°	3838.0	3791.3	3503.3	3277.5	3153.0
42.5°	3596.7	3534.4	3254.2	3012.8	2872.7
45°	3339.8	3269.7	2989.5	2740.3	2631.4
47.5°	3082.9	3020.6	2763.7	2506.8	2382.2
50°	2810.4	2755.9	2522.4	2265.5	2133.1
52.5°	2584.6	2499.0	2273.2	2016.3	1907.3
55°	2320.0	2249.9	2039.7	1798.4	1704.9
57.5°	2078.6	2008.5	1813.9	1588.2	1510.3
60°	1852.8	1751.6	1588.2	1393.5	1331.2
62.5°	1603.7	1525.9	1385.7	1222.3	1300.1
65°	1378.0	1300.1	1175.5	1198.9	996.5
67.5°	1128.8	1089.9	980.9	871.9	840.8
70°	918.6	871.9	833.0	716.2	685.1
72.5°	731.8	685.1	630.6	568.3	545.0
75°	552.7	513.8	482.7	459.3	506.0
77.5°	381.5	365.9	342.5	319.2	311.4
80°	249.1	241.3	233.6	225.8	218.0
82.5°	147.9	147.9	147.9	147.9	147.9
85°	77.9	85.6	93.4	101.2	109.0
87.5°	46.7	46.7	54.5	62.3	70.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)