

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: P563136

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563136
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-40-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

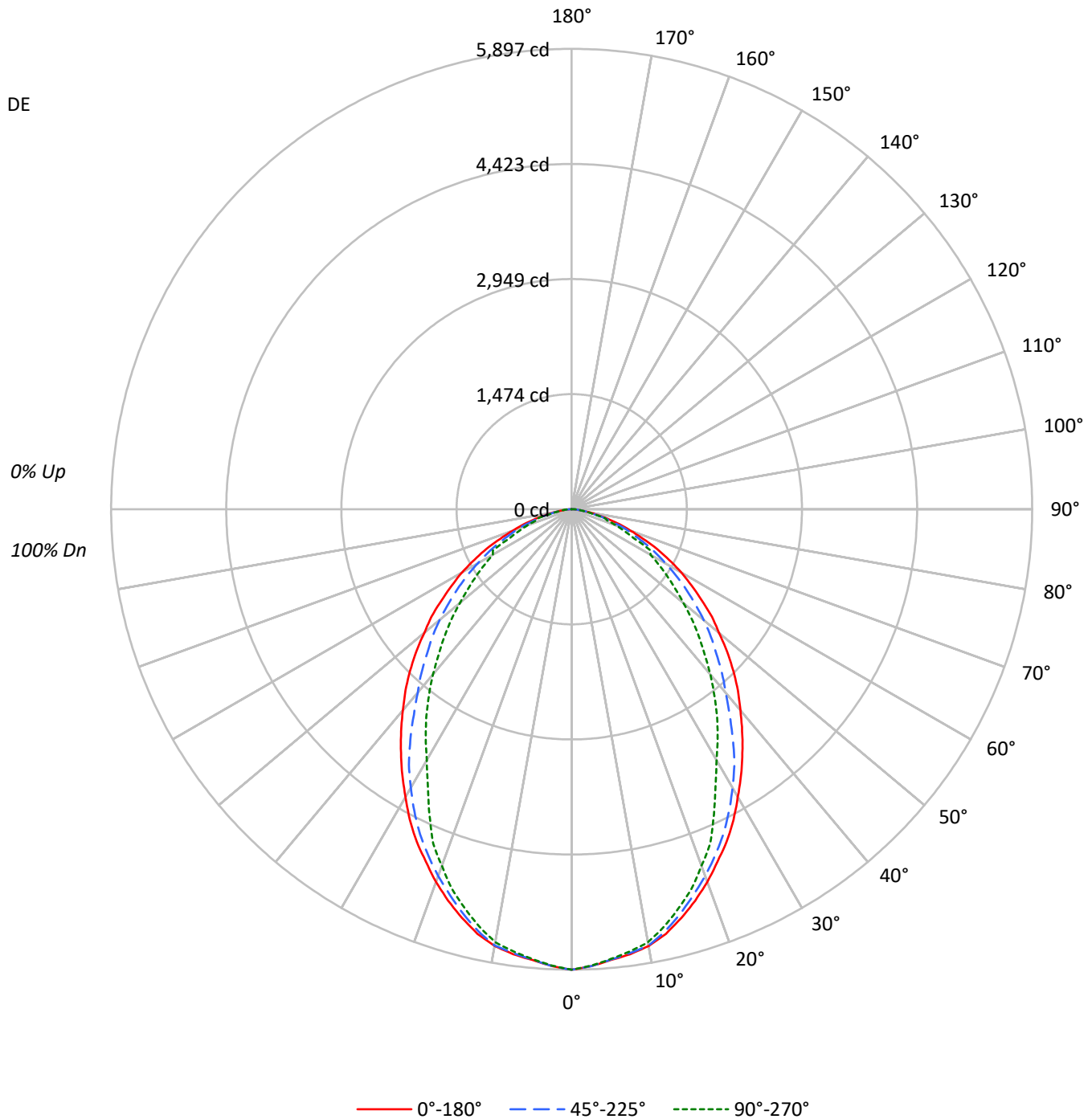
Lumens per Lamp: N/A
Luminaire Lumens: 11577.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	7935	7935	7935
5°	7827	7818	7808
10°	7759	7750	7694
15°	7550	7474	7369
20°	7272	7155	6960
25°	6974	6822	6397
30°	6609	6398	5762
35°	6260	5913	5330
40°	5903	5388	4850
45°	5565	4981	4385
50°	5152	4624	3910
55°	4766	4190	3502
60°	4366	3743	3137
65°	3842	3277	2778
70°	3165	2870	2360
75°	2516	2197	2303
80°	1691	1585	1479
85°	1053	1263	1473

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5565 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	548.9	4.7
10°-20°	1506.5	13.0
20°-30°	2085.7	18.0
30°-40°	2224.0	19.2
40°-50°	2028.9	17.5
50°-60°	1589.5	13.7
60°-70°	1035.9	8.9
70°-80°	459.0	4.0
80°-90°	98.5	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°	4141.2	35.8
0°-40°	6365.1	55.0
0°-60°	9983.5	86.2
0°-90°	11577.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11577.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5897	5897	5897	5897	5897	
5°	5795	5788	5788	5781	5781	550
15°	5420	5420	5365	5311	5290	1524
25°	4697	4670	4595	4431	4309	2157
35°	3811	3784	3600	3327	3245	2383
45°	2925	2863	2618	2400	2304	2253
55°	2032	1970	1786	1575	1493	1822
65°	1207	1138	1029	1050	873	1189
75°	484	450	423	402	443	519
85°	68	75	82	89	95	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5897.2	5897.2	5897.2	5897.2	5897.2
2.5°	5856.3	5856.3	5856.3	5849.4	5849.4
5°	5794.9	5788.1	5788.1	5781.3	5781.3
7.5°	5747.2	5740.4	5733.5	5726.7	5713.1
10°	5679.0	5679.0	5672.2	5638.1	5631.3
12.5°	5569.9	5563.1	5535.8	5488.1	5474.5
15°	5419.9	5419.9	5365.4	5310.9	5290.4
17.5°	5256.3	5249.5	5181.3	5126.8	5099.5
20°	5079.1	5065.4	4997.3	4908.6	4860.9
22.5°	4881.4	4881.4	4799.5	4683.6	4635.9
25°	4697.3	4670.0	4595.0	4431.4	4308.7
27.5°	4485.9	4445.0	4363.2	4131.4	3988.3
30°	4254.1	4233.7	4117.8	3817.8	3708.7
32.5°	4036.0	4001.9	3879.2	3565.6	3476.9
35°	3811.0	3783.7	3599.7	3327.0	3245.1
37.5°	3586.0	3551.9	3320.1	3102.0	2999.7
40°	3361.0	3320.1	3067.9	2870.2	2761.1
42.5°	3149.7	3095.2	2849.7	2638.4	2515.7
45°	2924.7	2863.4	2617.9	2399.8	2304.3
47.5°	2699.7	2645.2	2420.2	2195.2	2086.2
50°	2461.1	2413.4	2208.9	1983.9	1868.0
52.5°	2263.4	2188.4	1990.7	1765.7	1670.3
55°	2031.6	1970.3	1786.2	1574.9	1493.0
57.5°	1820.3	1758.9	1588.5	1390.8	1322.6
60°	1622.6	1533.9	1390.8	1220.3	1165.8
62.5°	1404.4	1336.2	1213.5	1070.4	1138.5
65°	1206.7	1138.5	1029.4	1049.9	872.6
67.5°	988.5	954.5	859.0	763.6	736.3
70°	804.5	763.6	729.5	627.2	599.9
72.5°	640.8	599.9	552.2	497.7	477.2
75°	484.0	450.0	422.7	402.2	443.1
77.5°	334.1	320.4	300.0	279.5	272.7
80°	218.2	211.3	204.5	197.7	190.9
82.5°	129.5	129.5	129.5	129.5	129.5
85°	68.2	75.0	81.8	88.6	95.4
87.5°	40.9	40.9	47.7	54.5	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)