

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: P564118

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564118
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-LD4-4STD-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11551.0 lumens
Efficiency: N/A
Efficacy: 86.7 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

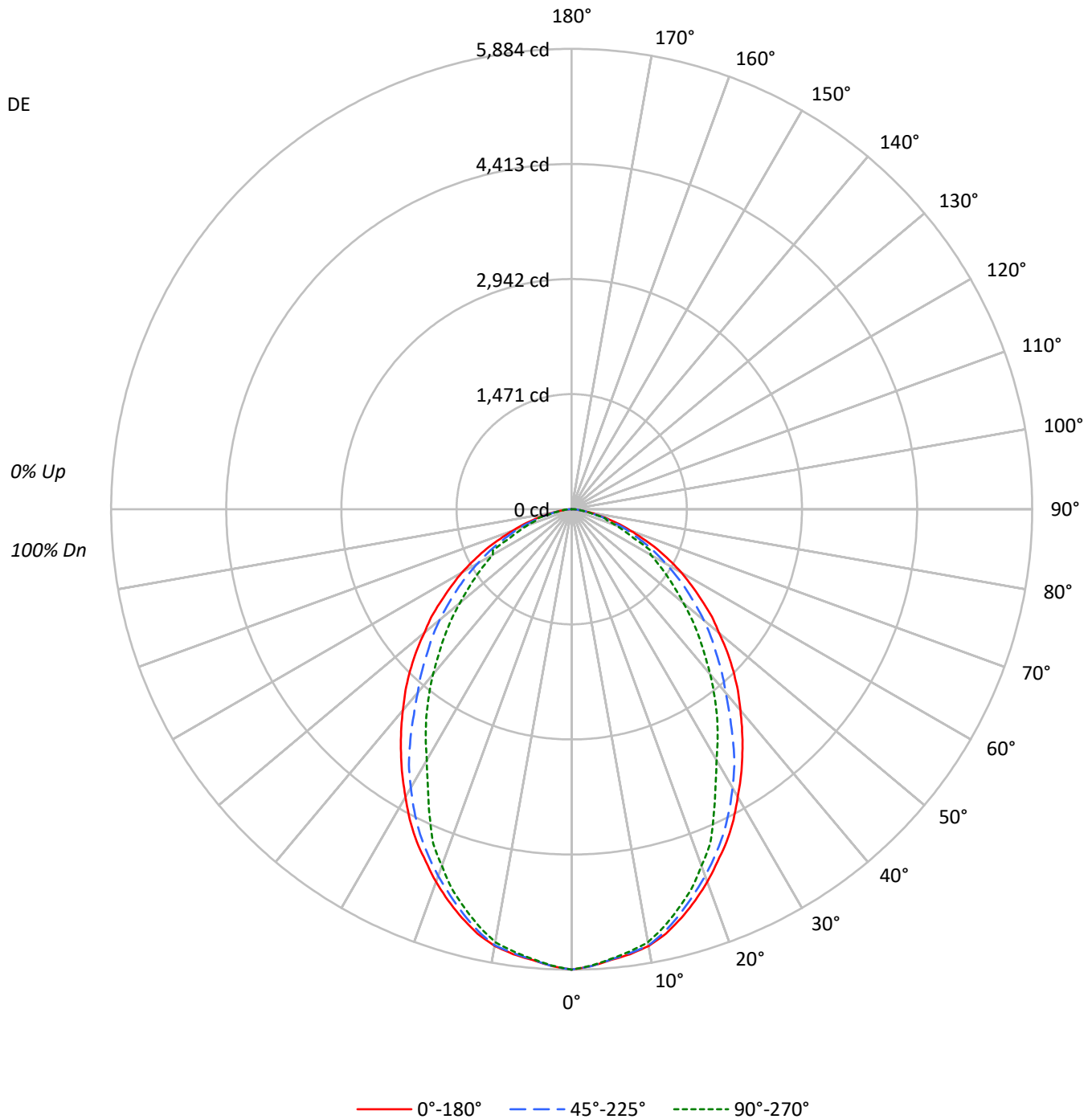
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	7917	7917	7917
5°	7809	7800	7791
10°	7742	7732	7676
15°	7533	7457	7353
20°	7256	7139	6944
25°	6958	6806	6382
30°	6595	6383	5749
35°	6246	5899	5318
40°	5890	5376	4839
45°	5553	4970	4375
50°	5140	4613	3901
55°	4755	4181	3495
60°	4356	3734	3130
65°	3833	3270	2772
70°	3158	2863	2355
75°	2511	2192	2298
80°	1687	1581	1476
85°	1050	1260	1470

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5553 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	547.7	4.7
10°-20°	1503.2	13.0
20°-30°	2081.0	18.0
30°-40°	2219.0	19.2
40°-50°	2024.4	17.5
50°-60°	1585.9	13.7
60°-70°	1033.6	8.9
70°-80°	457.9	4.0
80°-90°	98.3	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°	4131.9	35.8
0°-40°	6350.9	55.0
0°-60°	9961.1	86.2
0°-90°	11551.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11551.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5884	5884	5884	5884	5884	
5°	5782	5775	5775	5768	5768	549
15°	5408	5408	5353	5299	5278	1520
25°	4687	4660	4585	4421	4299	2152
35°	3802	3775	3592	3320	3238	2377
45°	2918	2857	2612	2394	2299	2248
55°	2027	1966	1782	1571	1490	1818
65°	1204	1136	1027	1048	871	1187
75°	483	449	422	401	442	518
85°	68	75	82	88	95	94
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5883.9	5883.9	5883.9	5883.9	5883.9
2.5°	5843.1	5843.1	5843.1	5836.3	5836.3
5°	5781.9	5775.1	5775.1	5768.3	5768.3
7.5°	5734.3	5727.5	5720.7	5713.9	5700.3
10°	5666.3	5666.3	5659.5	5625.4	5618.6
12.5°	5557.4	5550.6	5523.4	5475.8	5462.2
15°	5407.8	5407.8	5353.4	5298.9	5278.5
17.5°	5244.5	5237.7	5169.7	5115.3	5088.1
20°	5067.7	5054.1	4986.0	4897.6	4850.0
22.5°	4870.4	4870.4	4788.8	4673.1	4625.5
25°	4686.7	4659.5	4584.7	4421.4	4299.0
27.5°	4475.9	4435.1	4353.4	4122.1	3979.3
30°	4244.6	4224.2	4108.5	3809.2	3700.4
32.5°	4026.9	3992.9	3870.5	3557.6	3469.1
35°	3802.4	3775.2	3591.6	3319.5	3237.9
37.5°	3578.0	3544.0	3312.7	3095.0	2993.0
40°	3353.5	3312.7	3061.0	2863.7	2754.9
42.5°	3142.6	3088.2	2843.3	2632.5	2510.0
45°	2918.2	2856.9	2612.1	2394.4	2299.2
47.5°	2693.7	2639.3	2414.8	2190.3	2081.5
50°	2455.6	2408.0	2203.9	1979.4	1863.8
52.5°	2258.3	2183.5	1986.2	1761.8	1666.5
55°	2027.1	1965.8	1782.2	1571.3	1489.7
57.5°	1816.2	1755.0	1584.9	1387.7	1319.6
60°	1618.9	1530.5	1387.7	1217.6	1163.2
62.5°	1401.3	1333.2	1210.8	1067.9	1136.0
65°	1204.0	1136.0	1027.1	1047.5	870.7
67.5°	986.3	952.3	857.1	761.8	734.6
70°	802.7	761.8	727.8	625.8	598.6
72.5°	639.4	598.6	551.0	496.6	476.2
75°	483.0	448.9	421.7	401.3	442.1
77.5°	333.3	319.7	299.3	278.9	272.1
80°	217.7	210.9	204.1	197.3	190.5
82.5°	129.2	129.2	129.2	129.2	129.2
85°	68.0	74.8	81.6	88.4	95.2
87.5°	40.8	40.8	47.6	54.4	61.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)