

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: P563538

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563538
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-LD4-3STD-40-UNV-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9056.0 lumens
Efficiency: N/A
Efficacy: 90.7 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

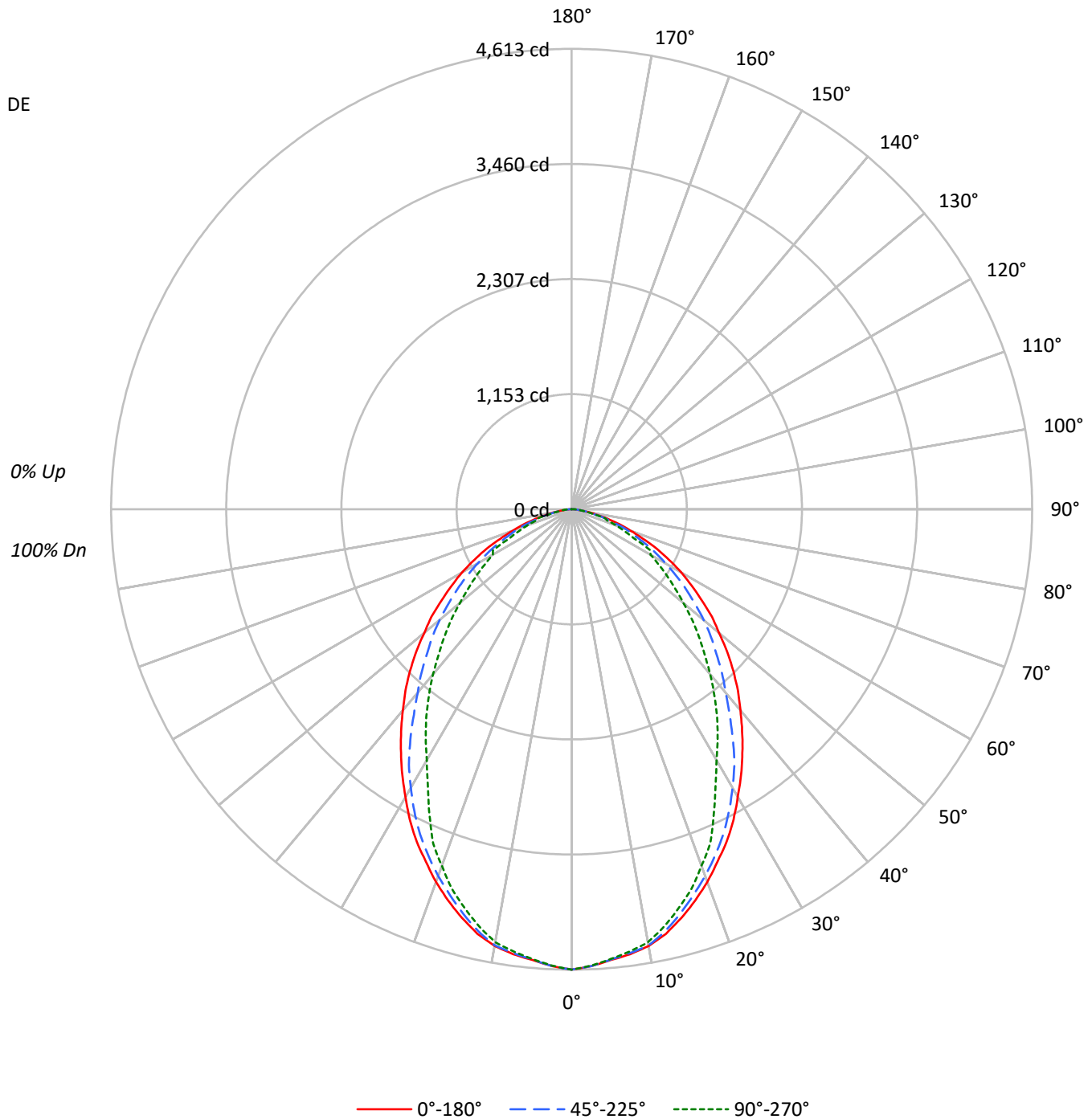
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6207	6207	6207
5°	6122	6115	6108
10°	6069	6062	6018
15°	5906	5846	5765
20°	5689	5597	5444
25°	5455	5336	5004
30°	5170	5004	4507
35°	4897	4625	4170
40°	4618	4215	3793
45°	4353	3897	3430
50°	4030	3617	3059
55°	3728	3278	2740
60°	3415	2928	2454
65°	3005	2564	2173
70°	2476	2245	1846
75°	1968	1719	1802
80°	1323	1240	1157
85°	823	988	1153

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4353 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.4	4.7
10°-20°	1178.5	13.0
20°-30°	1631.5	18.0
30°-40°	1739.7	19.2
40°-50°	1587.1	17.5
50°-60°	1243.4	13.7
60°-70°	810.4	8.9
70°-80°	359.0	4.0
80°-90°	77.1	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°	3239.4	35.8
0°-40°	4979.1	55.0
0°-60°	7809.5	86.2
0°-90°	9056.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9056.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4613	4613	4613	4613	4613	
5°	4533	4528	4528	4522	4522	430
15°	4240	4240	4197	4154	4138	1192
25°	3674	3653	3594	3466	3370	1687
35°	2981	2960	2816	2602	2538	1864
45°	2288	2240	2048	1877	1802	1762
55°	1589	1541	1397	1232	1168	1425
65°	944	891	805	821	683	930
75°	379	352	331	315	347	406
85°	53	59	64	69	75	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4613.0	4613.0	4613.0	4613.0	4613.0
2.5°	4581.0	4581.0	4581.0	4575.7	4575.7
5°	4533.0	4527.7	4527.7	4522.3	4522.3
7.5°	4495.7	4490.3	4485.0	4479.7	4469.0
10°	4442.4	4442.4	4437.0	4410.4	4405.0
12.5°	4357.0	4351.7	4330.4	4293.0	4282.4
15°	4239.7	4239.7	4197.0	4154.4	4138.4
17.5°	4111.7	4106.4	4053.0	4010.4	3989.0
20°	3973.1	3962.4	3909.1	3839.7	3802.4
22.5°	3818.4	3818.4	3754.4	3663.7	3626.4
25°	3674.4	3653.1	3594.4	3466.4	3370.4
27.5°	3509.1	3477.1	3413.1	3231.8	3119.8
30°	3327.8	3311.8	3221.1	2986.5	2901.1
32.5°	3157.1	3130.4	3034.5	2789.1	2719.8
35°	2981.1	2959.8	2815.8	2602.5	2538.5
37.5°	2805.1	2778.5	2597.1	2426.5	2346.5
40°	2629.1	2597.1	2399.8	2245.2	2159.8
42.5°	2463.8	2421.2	2229.2	2063.9	1967.9
45°	2287.8	2239.8	2047.9	1877.2	1802.5
47.5°	2111.8	2069.2	1893.2	1717.2	1631.9
50°	1925.2	1887.9	1727.9	1551.9	1461.2
52.5°	1770.5	1711.9	1557.2	1381.2	1306.6
55°	1589.2	1541.2	1397.2	1231.9	1167.9
57.5°	1423.9	1375.9	1242.6	1087.9	1034.6
60°	1269.2	1199.9	1087.9	954.6	911.9
62.5°	1098.6	1045.3	949.3	837.3	890.6
65°	943.9	890.6	805.3	821.3	682.6
67.5°	773.3	746.6	672.0	597.3	576.0
70°	629.3	597.3	570.6	490.6	469.3
72.5°	501.3	469.3	432.0	389.3	373.3
75°	378.6	352.0	330.6	314.6	346.6
77.5°	261.3	250.6	234.6	218.7	213.3
80°	170.7	165.3	160.0	154.7	149.3
82.5°	101.3	101.3	101.3	101.3	101.3
85°	53.3	58.7	64.0	69.3	74.7
87.5°	32.0	32.0	37.3	42.7	48.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)