

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: P563545

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563545
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-82-88-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9285.0 lumens
Efficiency: N/A
Efficacy: 92.9 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

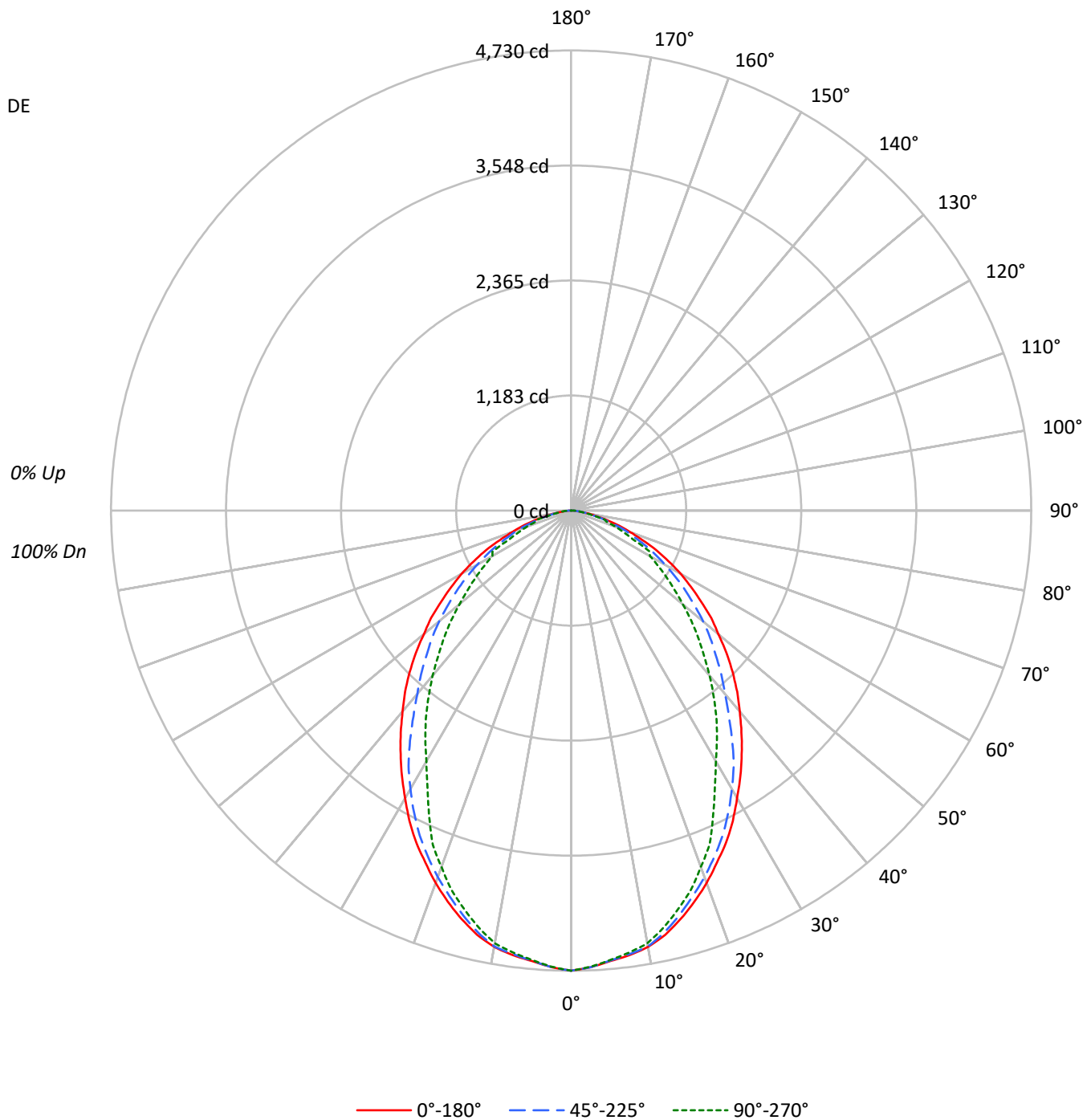
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6364	6364	6364
5°	6277	6270	6262
10°	6223	6215	6171
15°	6055	5994	5910
20°	5833	5739	5582
25°	5593	5471	5130
30°	5301	5131	4621
35°	5020	4742	4275
40°	4735	4322	3890
45°	4463	3995	3517
50°	4132	3708	3136
55°	3822	3361	2809
60°	3502	3002	2516
65°	3081	2628	2228
70°	2538	2302	1893
75°	2018	1762	1848
80°	1356	1271	1186
85°	844	1013	1181

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4463 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	440.3	4.7
10°-20°	1208.3	13.0
20°-30°	1672.8	18.0
30°-40°	1783.7	19.2
40°-50°	1627.2	17.5
50°-60°	1274.8	13.7
60°-70°	830.8	8.9
70°-80°	368.1	4.0
80°-90°	79.0	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°	3321.3	35.8
0°-40°	5105.0	55.0
0°-60°	8007.0	86.2
0°-90°	9285.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9285.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4730	4730	4730	4730	4730	
5°	4648	4642	4642	4637	4637	441
15°	4347	4347	4303	4259	4243	1222
25°	3767	3745	3685	3554	3456	1730
35°	3056	3035	2887	2668	2603	1911
45°	2346	2296	2100	1925	1848	1807
55°	1629	1580	1433	1263	1198	1461
65°	968	913	826	842	700	954
75°	388	361	339	323	355	416
85°	55	60	66	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4729.7	4729.7	4729.7	4729.7	4729.7
2.5°	4696.8	4696.8	4696.8	4691.4	4691.4
5°	4647.6	4642.2	4642.2	4636.7	4636.7
7.5°	4609.4	4603.9	4598.4	4593.0	4582.0
10°	4554.7	4554.7	4549.2	4521.9	4516.4
12.5°	4467.2	4461.7	4439.9	4401.6	4390.7
15°	4346.9	4346.9	4303.2	4259.4	4243.0
17.5°	4215.7	4210.2	4155.5	4111.8	4089.9
20°	4073.5	4062.6	4007.9	3936.8	3898.5
22.5°	3915.0	3915.0	3849.3	3756.4	3718.1
25°	3767.3	3745.4	3685.3	3554.1	3455.7
27.5°	3597.8	3565.0	3499.4	3313.5	3198.7
30°	3411.9	3395.5	3302.6	3062.0	2974.5
32.5°	3236.9	3209.6	3111.2	2859.7	2788.6
35°	3056.5	3034.6	2887.0	2668.3	2602.7
37.5°	2876.1	2848.7	2662.8	2487.9	2405.8
40°	2695.6	2662.8	2460.5	2301.9	2214.5
42.5°	2526.1	2482.4	2285.5	2116.0	2017.6
45°	2345.7	2296.5	2099.6	1924.7	1848.1
47.5°	2165.3	2121.5	1941.1	1760.6	1673.1
50°	1973.9	1935.6	1771.6	1591.1	1498.2
52.5°	1815.3	1755.2	1596.6	1416.2	1339.6
55°	1629.4	1580.2	1432.6	1263.1	1197.5
57.5°	1459.9	1410.7	1274.0	1115.4	1060.8
60°	1301.3	1230.3	1115.4	978.7	935.0
62.5°	1126.4	1071.7	973.3	858.4	913.1
65°	967.8	913.1	825.6	842.0	699.9
67.5°	792.8	765.5	688.9	612.4	590.5
70°	645.2	612.4	585.1	503.0	481.2
72.5°	514.0	481.2	442.9	399.2	382.7
75°	388.2	360.9	339.0	322.6	355.4
77.5°	267.9	257.0	240.6	224.2	218.7
80°	175.0	169.5	164.0	158.6	153.1
82.5°	103.9	103.9	103.9	103.9	103.9
85°	54.7	60.1	65.6	71.1	76.5
87.5°	32.8	32.8	38.3	43.7	49.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)