

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: P560453

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560453
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-12-2-LD4-2LO-40-UNV-81-86-EDD
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

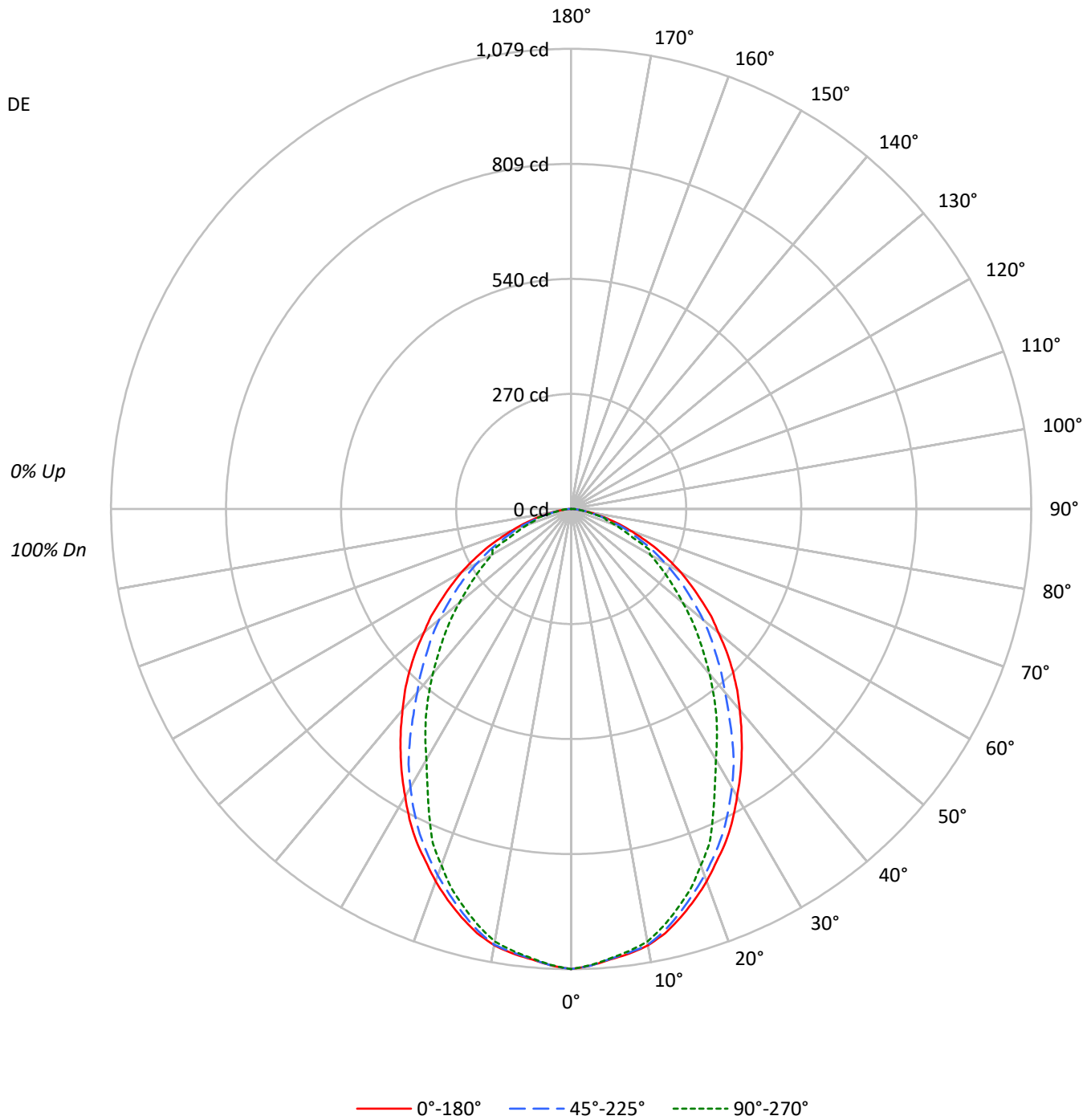
Lumens per Lamp: N/A
Luminaire Lumens: 2118.0 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	5807	5807	5807
5°	5728	5721	5714
10°	5678	5671	5630
15°	5525	5469	5393
20°	5322	5236	5093
25°	5103	4992	4681
30°	4837	4681	4217
35°	4581	4327	3901
40°	4320	3943	3549
45°	4073	3645	3209
50°	3770	3383	2861
55°	3488	3066	2563
60°	3195	2738	2296
65°	2812	2398	2032
70°	2316	2101	1728
75°	1842	1607	1686
80°	1237	1159	1082
85°	772	926	1081

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4073 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.4	4.7
10°-20°	275.6	13.0
20°-30°	381.6	18.0
30°-40°	406.9	19.2
40°-50°	371.2	17.5
50°-60°	290.8	13.7
60°-70°	189.5	8.9
70°-80°	84.0	4.0
80°-90°	18.0	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°	757.6	35.8
0°-40°	1164.5	55.0
0°-60°	1826.5	86.2
0°-90°	2118.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2118.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1079	1079	1079	1079	1079	
5°	1060	1059	1059	1058	1058	101
15°	992	992	982	972	968	279
25°	859	854	841	811	788	395
35°	697	692	659	609	594	436
45°	535	524	479	439	422	412
55°	372	360	327	288	273	333
65°	221	208	188	192	160	218
75°	89	82	77	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1078.9	1078.9	1078.9	1078.9	1078.9
2.5°	1071.4	1071.4	1071.4	1070.2	1070.2
5°	1060.2	1058.9	1058.9	1057.7	1057.7
7.5°	1051.4	1050.2	1048.9	1047.7	1045.2
10°	1039.0	1039.0	1037.7	1031.5	1030.2
12.5°	1019.0	1017.8	1012.8	1004.0	1001.6
15°	991.6	991.6	981.6	971.6	967.9
17.5°	961.6	960.4	947.9	937.9	933.0
20°	929.2	926.7	914.2	898.0	889.3
22.5°	893.0	893.0	878.1	856.9	848.1
25°	859.4	854.4	840.7	810.7	788.3
27.5°	820.7	813.2	798.2	755.8	729.6
30°	778.3	774.5	753.3	698.5	678.5
32.5°	738.4	732.1	709.7	652.3	636.1
35°	697.2	692.2	658.6	608.7	593.7
37.5°	656.1	649.8	607.4	567.5	548.8
40°	614.9	607.4	561.3	525.1	505.1
42.5°	576.2	566.3	521.4	482.7	460.2
45°	535.1	523.8	478.9	439.0	421.6
47.5°	493.9	483.9	442.8	401.6	381.7
50°	450.3	441.5	404.1	363.0	341.7
52.5°	414.1	400.4	364.2	323.0	305.6
55°	371.7	360.5	326.8	288.1	273.2
57.5°	333.0	321.8	290.6	254.4	242.0
60°	296.8	280.6	254.4	223.3	213.3
62.5°	256.9	244.5	222.0	195.8	208.3
65°	220.8	208.3	188.3	192.1	159.6
67.5°	180.9	174.6	157.2	139.7	134.7
70°	147.2	139.7	133.5	114.7	109.8
72.5°	117.2	109.8	101.0	91.1	87.3
75°	88.6	82.3	77.3	73.6	81.1
77.5°	61.1	58.6	54.9	51.1	49.9
80°	39.9	38.7	37.4	36.2	34.9
82.5°	23.7	23.7	23.7	23.7	23.7
85°	12.5	13.7	15.0	16.2	17.5
87.5°	7.5	7.5	8.7	10.0	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)