

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: P559104

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559104
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-12-1-LD4-2HI-40-UNV-81-84-EDD-90
Description: 1X1 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: 1556.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

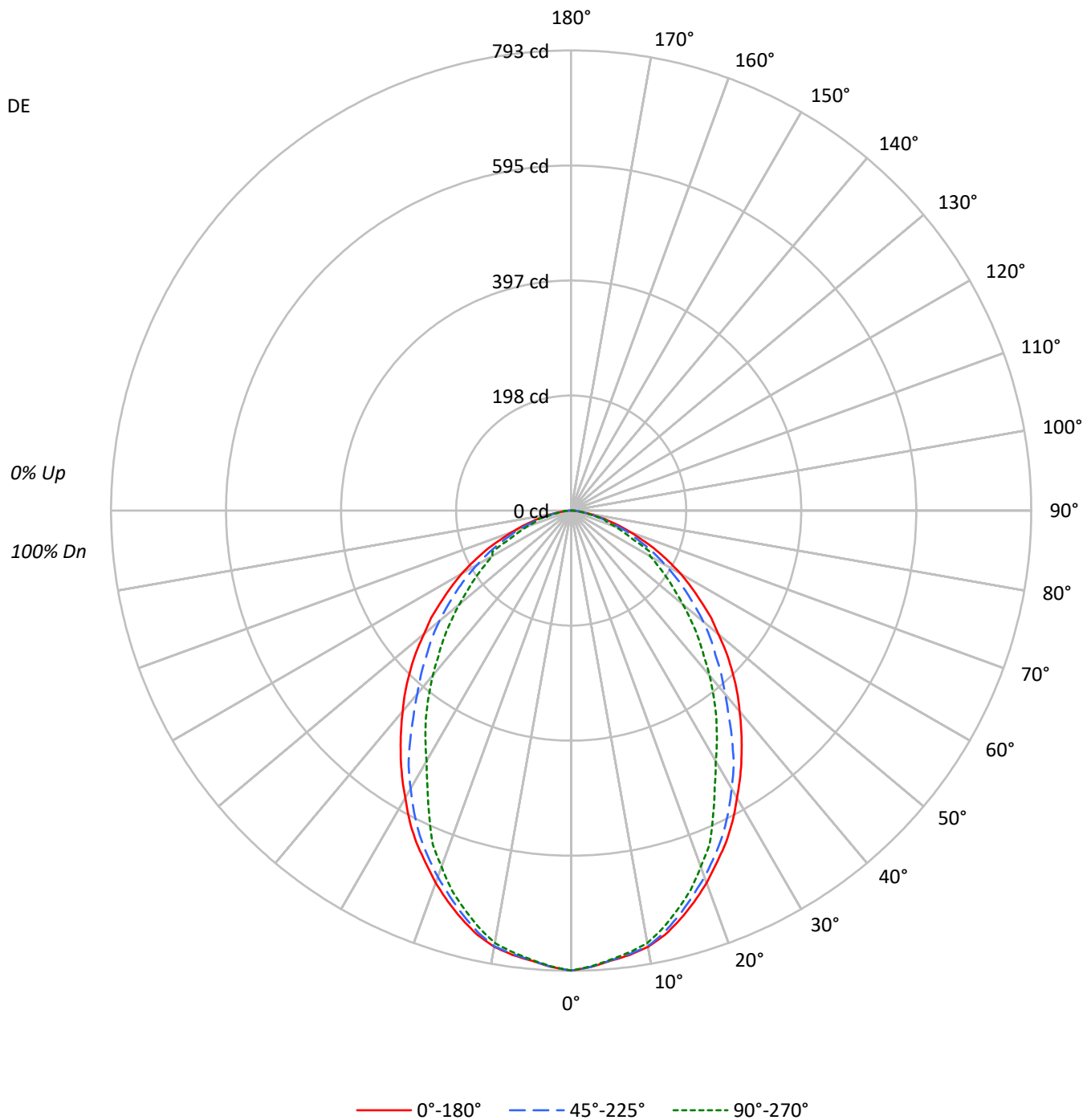
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8531	8531	8531
5°	8416	8405	8396
10°	8343	8333	8273
15°	8118	8036	7924
20°	7819	7694	7483
25°	7498	7335	6878
30°	7107	6878	6196
35°	6730	6357	5732
40°	6347	5793	5214
45°	5984	5357	4714
50°	5539	4972	4205
55°	5125	4506	3766
60°	4695	4024	3373
65°	4131	3525	2988
70°	3402	3084	2537
75°	2707	2362	2479
80°	1816	1705	1593
85°	1136	1359	1581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	4.7
10°-20°	202.5	13.0
20°-30°	280.3	18.0
30°-40°	298.9	19.2
40°-50°	272.7	17.5
50°-60°	213.6	13.7
60°-70°	139.2	8.9
70°-80°	61.7	4.0
80°-90°	13.2	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°	556.6	35.8
0°-40°	855.5	55.0
0°-60°	1341.8	86.2
0°-90°	1556.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1556.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	793	793	793	793	793	
5°	779	778	778	777	777	74
15°	728	728	721	714	711	205
25°	631	628	618	596	579	290
35°	512	509	484	447	436	320
45°	393	385	352	322	310	303
55°	273	265	240	212	201	245
65°	162	153	138	141	117	160
75°	65	60	57	54	60	70
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	792.6	792.6	792.6	792.6	792.6
2.5°	787.1	787.1	787.1	786.2	786.2
5°	778.9	777.9	777.9	777.0	777.0
7.5°	772.4	771.5	770.6	769.7	767.9
10°	763.3	763.3	762.4	757.8	756.9
12.5°	748.6	747.7	744.0	737.6	735.8
15°	728.5	728.5	721.1	713.8	711.1
17.5°	706.5	705.6	696.4	689.1	685.4
20°	682.6	680.8	671.7	659.7	653.3
22.5°	656.1	656.1	645.1	629.5	623.1
25°	631.3	627.7	617.6	595.6	579.1
27.5°	602.9	597.4	586.4	555.3	536.0
30°	571.8	569.0	553.4	513.1	498.5
32.5°	542.5	537.9	521.4	479.2	467.3
35°	512.2	508.6	483.8	447.2	436.2
37.5°	482.0	477.4	446.2	416.9	403.2
40°	451.7	446.2	412.3	385.8	371.1
42.5°	423.3	416.0	383.0	354.6	338.1
45°	393.1	384.8	351.9	322.5	309.7
47.5°	362.9	355.5	325.3	295.1	280.4
50°	330.8	324.4	296.9	266.6	251.1
52.5°	304.2	294.1	267.6	237.3	224.5
55°	273.1	264.8	240.1	211.7	200.7
57.5°	244.7	236.4	213.5	186.9	177.8
60°	218.1	206.2	186.9	164.0	156.7
62.5°	188.8	179.6	163.1	143.9	153.0
65°	162.2	153.0	138.4	141.1	117.3
67.5°	132.9	128.3	115.5	102.6	99.0
70°	108.1	102.6	98.0	84.3	80.6
72.5°	86.1	80.6	74.2	66.9	64.1
75°	65.1	60.5	56.8	54.1	59.6
77.5°	44.9	43.1	40.3	37.6	36.7
80°	29.3	28.4	27.5	26.6	25.7
82.5°	17.4	17.4	17.4	17.4	17.4
85°	9.2	10.1	11.0	11.9	12.8
87.5°	5.5	5.5	6.4	7.3	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)