

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: P559110

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559110
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-81-87-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

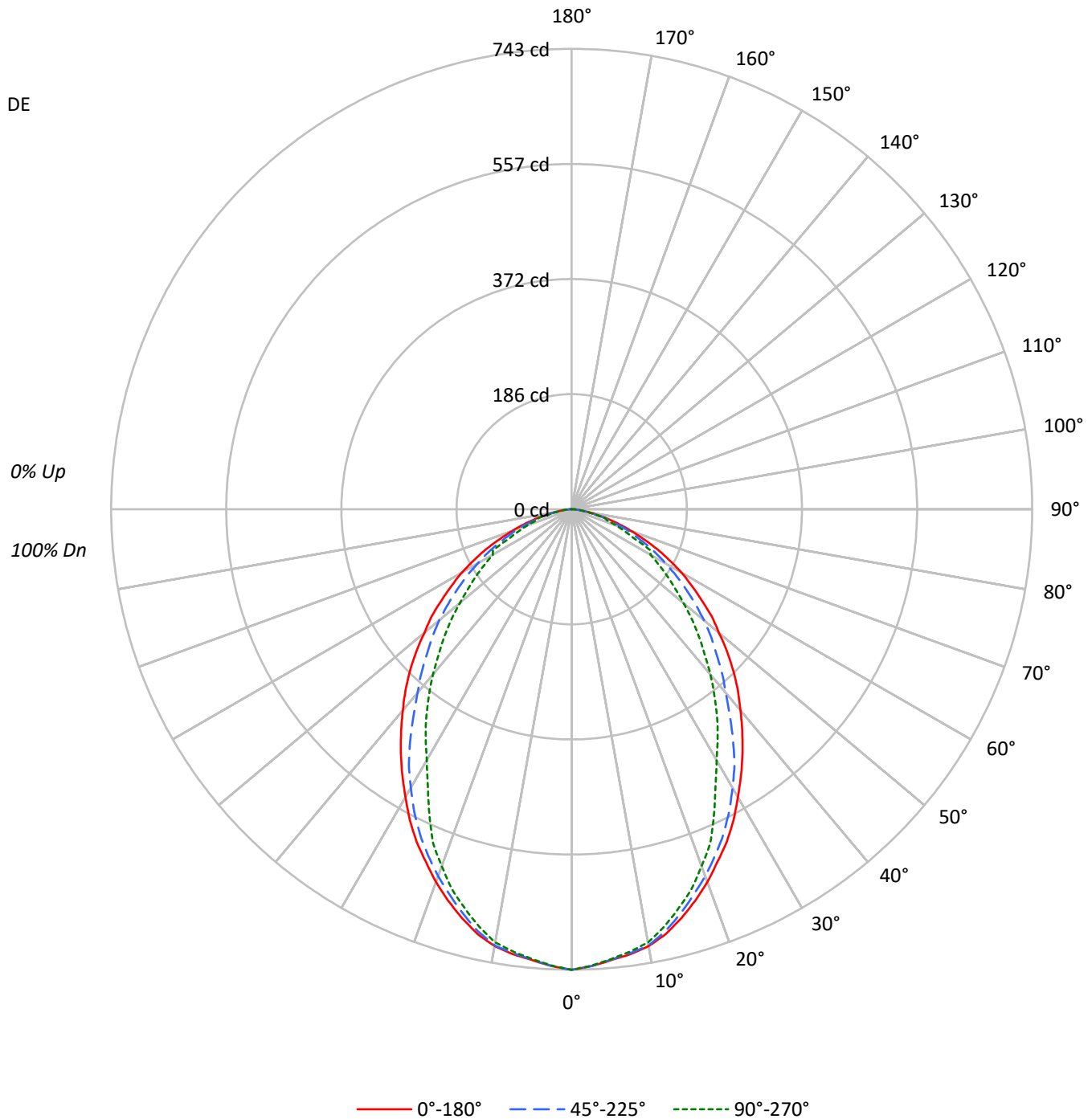
Lumens per Lamp: N/A
Luminaire Lumens: 1459.0 lumens
Efficiency: N/A
Efficacy: 67.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

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	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	
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°	8000	8000	8000
5°	7891	7881	7873
10°	7823	7813	7757
15°	7612	7535	7429
20°	7332	7214	7017
25°	7031	6878	6449
30°	6663	6449	5809
35°	6311	5960	5374
40°	5952	5432	4890
45°	5611	5022	4421
50°	5195	4662	3942
55°	4804	4224	3532
60°	4402	3774	3162
65°	3874	3303	2802
70°	3191	2892	2379
75°	2537	2217	2321
80°	1705	1599	1494
85°	1062	1272	1482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5611 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.2	4.7
10°-20°	189.9	13.0
20°-30°	262.9	18.0
30°-40°	280.3	19.2
40°-50°	255.7	17.5
50°-60°	200.3	13.7
60°-70°	130.6	8.9
70°-80°	57.8	4.0
80°-90°	12.4	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°	521.9	35.8
0°-40°	802.2	55.0
0°-60°	1258.2	86.2
0°-90°	1459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1459.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	743	743	743	743	743	
5°	730	729	729	729	729	69
15°	683	683	676	669	667	192
25°	592	588	579	558	543	272
35°	480	477	454	419	409	300
45°	369	361	330	302	290	284
55°	256	248	225	198	188	230
65°	152	144	130	132	110	150
75°	61	57	53	51	56	65
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	743.2	743.2	743.2	743.2	743.2
2.5°	738.0	738.0	738.0	737.2	737.2
5°	730.3	729.4	729.4	728.6	728.6
7.5°	724.3	723.4	722.6	721.7	720.0
10°	715.7	715.7	714.8	710.5	709.7
12.5°	702.0	701.1	697.7	691.6	689.9
15°	683.1	683.1	676.2	669.3	666.7
17.5°	662.4	661.6	653.0	646.1	642.7
20°	640.1	638.4	629.8	618.6	612.6
22.5°	615.2	615.2	604.9	590.3	584.2
25°	592.0	588.5	579.1	558.5	543.0
27.5°	565.3	560.2	549.9	520.7	502.6
30°	536.1	533.6	518.9	481.1	467.4
32.5°	508.6	504.3	488.9	449.4	438.2
35°	480.3	476.8	453.6	419.3	409.0
37.5°	451.9	447.6	418.4	390.9	378.0
40°	423.6	418.4	386.6	361.7	348.0
42.5°	396.9	390.1	359.1	332.5	317.0
45°	368.6	360.9	329.9	302.4	290.4
47.5°	340.2	333.4	305.0	276.7	262.9
50°	310.2	304.2	278.4	250.0	235.4
52.5°	285.2	275.8	250.9	222.5	210.5
55°	256.0	248.3	225.1	198.5	188.2
57.5°	229.4	221.7	200.2	175.3	166.7
60°	204.5	193.3	175.3	153.8	146.9
62.5°	177.0	168.4	152.9	134.9	143.5
65°	152.1	143.5	129.7	132.3	110.0
67.5°	124.6	120.3	108.3	96.2	92.8
70°	101.4	96.2	91.9	79.0	75.6
72.5°	80.8	75.6	69.6	62.7	60.1
75°	61.0	56.7	53.3	50.7	55.8
77.5°	42.1	40.4	37.8	35.2	34.4
80°	27.5	26.6	25.8	24.9	24.1
82.5°	16.3	16.3	16.3	16.3	16.3
85°	8.6	9.5	10.3	11.2	12.0
87.5°	5.2	5.2	6.0	6.9	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)