

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: P561362

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561362
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-12-4-LD4-2HI-35-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

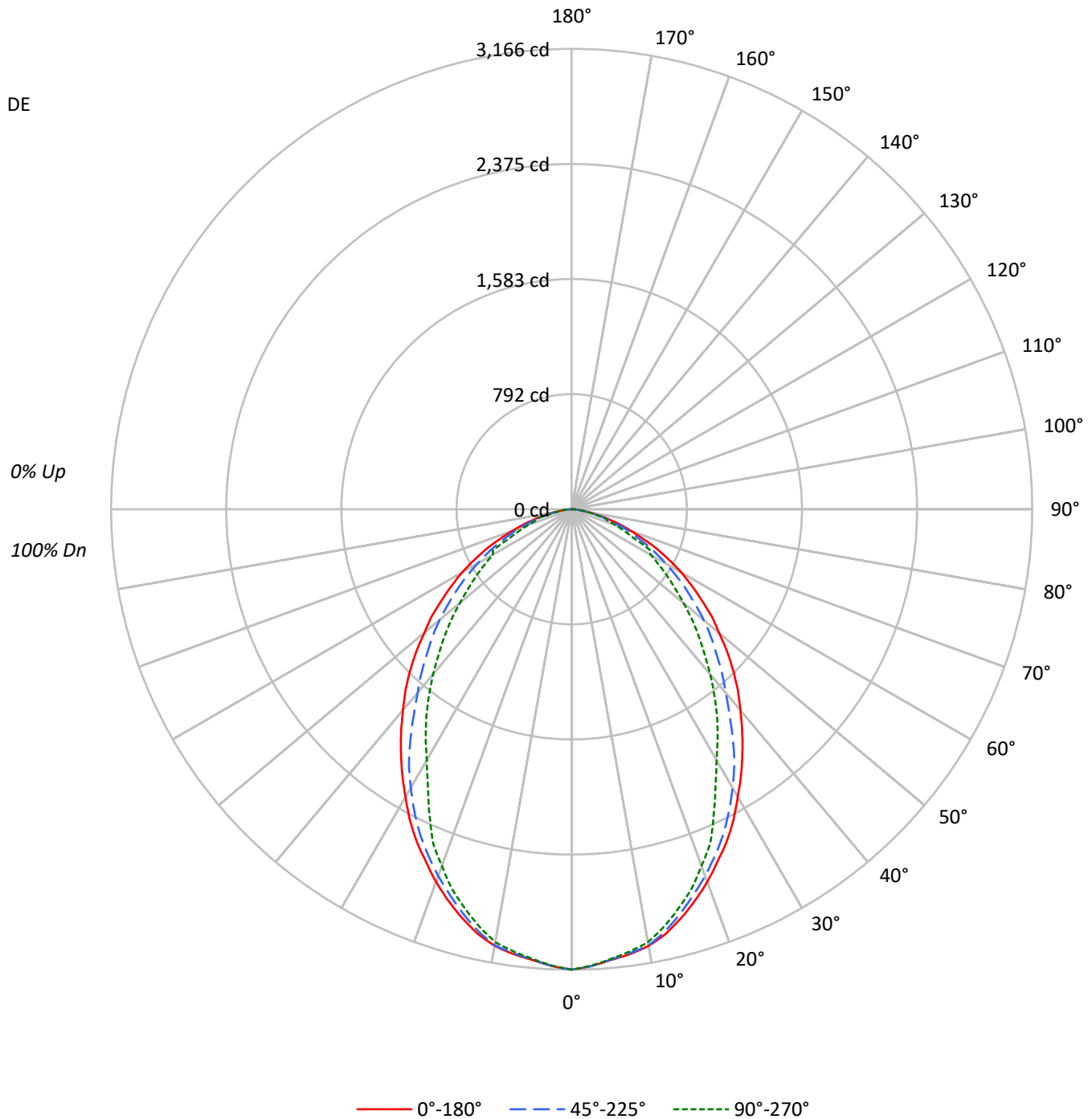
Lumens per Lamp: N/A
Luminaire Lumens: 6215.0 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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	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°	8519	8519	8519
5°	8403	8394	8384
10°	8331	8321	8261
15°	8106	8025	7912
20°	7808	7682	7473
25°	7487	7324	6868
30°	7096	6869	6187
35°	6721	6348	5723
40°	6338	5786	5207
45°	5975	5348	4708
50°	5531	4964	4198
55°	5117	4499	3760
60°	4688	4018	3368
65°	4125	3519	2983
70°	3398	3081	2534
75°	2702	2359	2473
80°	1815	1702	1588
85°	1130	1355	1581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5975 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.7	4.7
10°-20°	808.8	13.0
20°-30°	1119.7	18.0
30°-40°	1193.9	19.2
40°-50°	1089.2	17.5
50°-60°	853.3	13.7
60°-70°	556.1	8.9
70°-80°	246.4	4.0
80°-90°	52.9	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°	2223.2	35.8
0°-40°	3417.1	55.0
0°-60°	5359.6	86.2
0°-90°	6215.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6215.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3166	3166	3166	3166	3166	
5°	3111	3107	3107	3104	3104	295
15°	2910	2910	2880	2851	2840	818
25°	2522	2507	2467	2379	2313	1158
35°	2046	2031	1932	1786	1742	1279
45°	1570	1537	1405	1288	1237	1209
55°	1091	1058	959	845	802	978
65°	648	611	553	564	468	638
75°	260	242	227	216	238	278
85°	37	40	44	48	51	51
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3165.8	3165.8	3165.8	3165.8	3165.8
2.5°	3143.9	3143.9	3143.9	3140.2	3140.2
5°	3110.9	3107.3	3107.3	3103.6	3103.6
7.5°	3085.3	3081.7	3078.0	3074.3	3067.0
10°	3048.7	3048.7	3045.1	3026.8	3023.1
12.5°	2990.2	2986.5	2971.9	2946.2	2938.9
15°	2909.6	2909.6	2880.4	2851.1	2840.1
17.5°	2821.8	2818.1	2781.5	2752.3	2737.6
20°	2726.6	2719.3	2682.7	2635.1	2609.5
22.5°	2620.5	2620.5	2576.6	2514.4	2488.8
25°	2521.7	2507.1	2466.8	2379.0	2313.1
27.5°	2408.2	2386.3	2342.4	2217.9	2141.1
30°	2283.8	2272.8	2210.6	2049.6	1991.0
32.5°	2166.7	2148.4	2082.5	1914.1	1866.6
35°	2045.9	2031.3	1932.4	1786.0	1742.1
37.5°	1925.1	1906.8	1782.4	1665.3	1610.4
40°	1804.3	1782.4	1647.0	1540.8	1482.3
42.5°	1690.9	1661.6	1529.9	1416.4	1350.5
45°	1570.1	1537.2	1405.4	1288.3	1237.1
47.5°	1449.3	1420.1	1299.3	1178.5	1119.9
50°	1321.2	1295.6	1185.8	1065.0	1002.8
52.5°	1215.1	1174.8	1068.7	947.9	896.7
55°	1090.7	1057.7	958.9	845.4	801.5
57.5°	977.2	944.3	852.8	746.6	710.0
60°	871.1	823.5	746.6	655.1	625.8
62.5°	753.9	717.3	651.5	574.6	611.2
65°	647.8	611.2	552.6	563.6	468.5
67.5°	530.7	512.4	461.2	409.9	395.3
70°	431.9	409.9	391.6	336.7	322.1
72.5°	344.0	322.1	296.5	267.2	256.2
75°	259.9	241.6	226.9	215.9	237.9
77.5°	179.3	172.0	161.0	150.1	146.4
80°	117.1	113.5	109.8	106.1	102.5
82.5°	69.5	69.5	69.5	69.5	69.5
85°	36.6	40.3	43.9	47.6	51.2
87.5°	22.0	22.0	25.6	29.3	32.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)