

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: P561344

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561344
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-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6477.0 lumens
Efficiency: N/A
Efficacy: 75.0 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

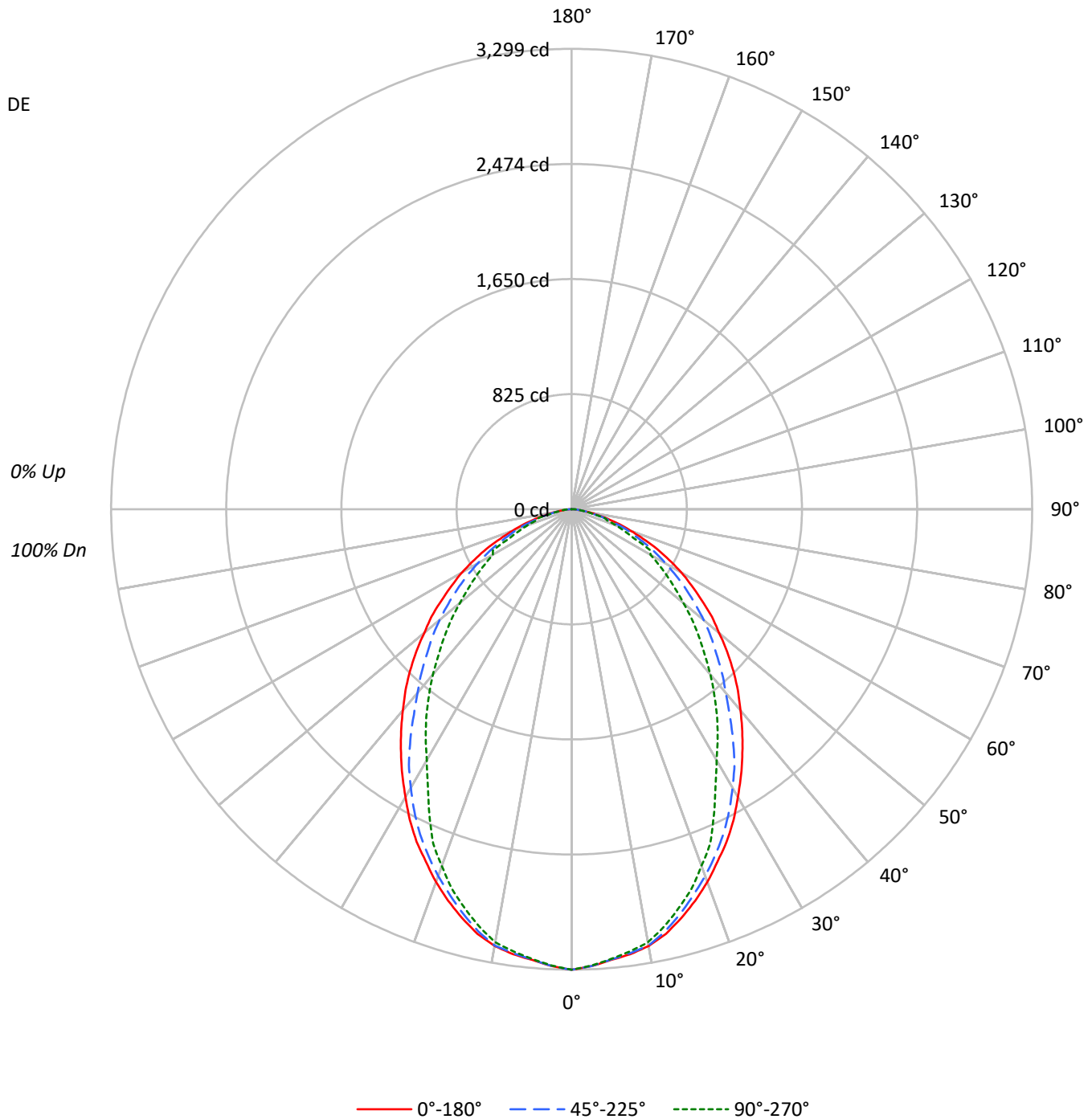
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8878	8878	8878
5°	8758	8747	8737
10°	8682	8671	8609
15°	8448	8363	8246
20°	8137	8006	7788
25°	7803	7633	7157
30°	7396	7159	6447
35°	7004	6616	5964
40°	6606	6029	5427
45°	6227	5574	4906
50°	5764	5174	4375
55°	5332	4688	3919
60°	4886	4188	3510
65°	4299	3667	3109
70°	3541	3211	2641
75°	2816	2459	2577
80°	1892	1773	1655
85°	1176	1414	1649

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6227 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.1	4.7
10°-20°	842.9	13.0
20°-30°	1166.9	18.0
30°-40°	1244.2	19.2
40°-50°	1135.1	17.5
50°-60°	889.3	13.7
60°-70°	579.6	8.9
70°-80°	256.8	4.0
80°-90°	55.1	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°	2316.9	35.8
0°-40°	3561.1	55.0
0°-60°	5585.5	86.2
0°-90°	6477.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6477.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3299	3299	3299	3299	3299	
5°	3242	3238	3238	3234	3234	308
15°	3032	3032	3002	2971	2960	852
25°	2628	2613	2571	2479	2411	1207
35°	2132	2117	2014	1861	1816	1333
45°	1636	1602	1465	1343	1289	1260
55°	1137	1102	999	881	835	1019
65°	675	637	576	587	488	665
75°	271	252	236	225	248	290
85°	38	42	46	50	53	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3299.3	3299.3	3299.3	3299.3	3299.3
2.5°	3276.4	3276.4	3276.4	3272.6	3272.6
5°	3242.1	3238.3	3238.3	3234.5	3234.5
7.5°	3215.4	3211.6	3207.8	3203.9	3196.3
10°	3177.2	3177.2	3173.4	3154.4	3150.5
12.5°	3116.2	3112.4	3097.1	3070.4	3062.8
15°	3032.3	3032.3	3001.8	2971.3	2959.8
17.5°	2940.8	2936.9	2898.8	2868.3	2853.0
20°	2841.6	2834.0	2795.8	2746.2	2719.5
22.5°	2731.0	2731.0	2685.2	2620.4	2593.7
25°	2628.0	2612.7	2570.8	2479.2	2410.6
27.5°	2509.8	2486.9	2441.1	2311.4	2231.3
30°	2380.1	2368.6	2303.8	2136.0	2074.9
32.5°	2258.0	2238.9	2170.3	1994.8	1945.3
35°	2132.1	2116.9	2013.9	1861.3	1815.6
37.5°	2006.3	1987.2	1857.5	1735.5	1678.3
40°	1880.4	1857.5	1716.4	1605.8	1544.8
42.5°	1762.2	1731.7	1594.3	1476.1	1407.4
45°	1636.3	1602.0	1464.7	1342.6	1289.2
47.5°	1510.4	1479.9	1354.0	1228.2	1167.2
50°	1376.9	1350.2	1235.8	1109.9	1045.1
52.5°	1266.3	1224.4	1113.8	987.9	934.5
55°	1136.6	1102.3	999.3	881.1	835.3
57.5°	1018.4	984.1	888.7	778.1	740.0
60°	907.8	858.2	778.1	682.7	652.2
62.5°	785.7	747.6	678.9	598.8	637.0
65°	675.1	637.0	575.9	587.4	488.2
67.5°	553.1	534.0	480.6	427.2	411.9
70°	450.1	427.2	408.1	350.9	335.7
72.5°	358.5	335.7	309.0	278.4	267.0
75°	270.8	251.7	236.5	225.0	247.9
77.5°	186.9	179.3	167.8	156.4	152.6
80°	122.1	118.2	114.4	110.6	106.8
82.5°	72.5	72.5	72.5	72.5	72.5
85°	38.1	42.0	45.8	49.6	53.4
87.5°	22.9	22.9	26.7	30.5	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)