

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: P561432

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561432
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-40-UNV-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5430.0 lumens
Efficiency: N/A
Efficacy: 62.8 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

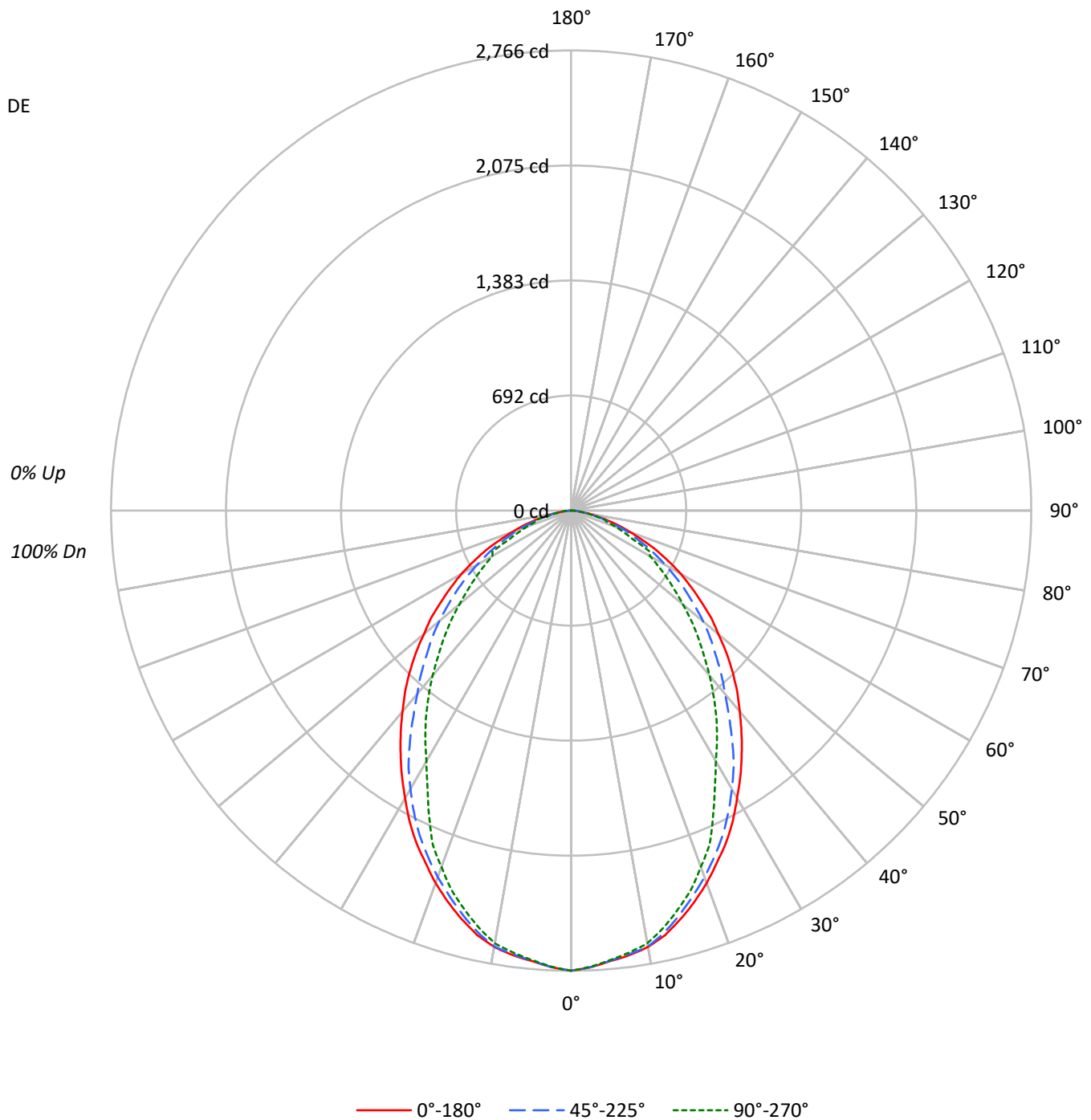
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7443	7443	7443
5°	7342	7333	7325
10°	7278	7270	7217
15°	7082	7011	6913
20°	6822	6712	6529
25°	6542	6399	6000
30°	6200	6001	5405
35°	5872	5547	5000
40°	5538	5055	4549
45°	5221	4673	4113
50°	4833	4337	3668
55°	4471	3931	3286
60°	4096	3511	2943
65°	3604	3074	2606
70°	2969	2692	2214
75°	2360	2062	2161
80°	1585	1486	1387
85°	988	1186	1383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5221 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.5	4.7
10°-20°	706.6	13.0
20°-30°	978.3	18.0
30°-40°	1043.1	19.2
40°-50°	951.6	17.5
50°-60°	745.5	13.7
60°-70°	485.9	8.9
70°-80°	215.3	4.0
80°-90°	46.2	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°	1942.4	35.8
0°-40°	2985.5	55.0
0°-60°	4682.6	86.2
0°-90°	5430.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5430.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2766	2766	2766	2766	2766	
5°	2718	2715	2715	2712	2712	258
15°	2542	2542	2517	2491	2481	715
25°	2203	2190	2155	2078	2021	1011
35°	1788	1775	1688	1560	1522	1118
45°	1372	1343	1228	1126	1081	1057
55°	953	924	838	739	700	855
65°	566	534	483	492	409	558
75°	227	211	198	189	208	243
85°	32	35	38	42	45	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2766.0	2766.0	2766.0	2766.0	2766.0
2.5°	2746.8	2746.8	2746.8	2743.6	2743.6
5°	2718.0	2714.8	2714.8	2711.6	2711.6
7.5°	2695.6	2692.4	2689.2	2686.0	2679.6
10°	2663.6	2663.6	2660.4	2644.5	2641.3
12.5°	2612.5	2609.3	2596.5	2574.1	2567.7
15°	2542.1	2542.1	2516.6	2491.0	2481.4
17.5°	2465.4	2462.2	2430.2	2404.6	2391.8
20°	2382.3	2375.9	2343.9	2302.3	2279.9
22.5°	2289.5	2289.5	2251.1	2196.8	2174.4
25°	2203.2	2190.4	2155.2	2078.5	2020.9
27.5°	2104.1	2084.9	2046.5	1937.8	1870.6
30°	1995.3	1985.7	1931.4	1790.7	1739.5
32.5°	1893.0	1877.0	1819.5	1672.4	1630.8
35°	1787.5	1774.7	1688.4	1560.5	1522.1
37.5°	1682.0	1666.0	1557.3	1454.9	1407.0
40°	1576.4	1557.3	1438.9	1346.2	1295.0
42.5°	1477.3	1451.7	1336.6	1237.5	1179.9
45°	1371.8	1343.0	1227.9	1125.6	1080.8
47.5°	1266.3	1240.7	1135.2	1029.6	978.5
50°	1154.4	1132.0	1036.0	930.5	876.2
52.5°	1061.6	1026.4	933.7	828.2	783.4
55°	952.9	924.1	837.8	738.7	700.3
57.5°	853.8	825.0	745.1	652.3	620.3
60°	761.0	719.5	652.3	572.4	546.8
62.5°	658.7	626.7	569.2	502.0	534.0
65°	566.0	534.0	482.8	492.4	409.3
67.5°	463.7	447.7	402.9	358.1	345.3
70°	377.3	358.1	342.1	294.2	281.4
72.5°	300.6	281.4	259.0	233.4	223.8
75°	227.0	211.0	198.3	188.7	207.8
77.5°	156.7	150.3	140.7	131.1	127.9
80°	102.3	99.1	95.9	92.7	89.5
82.5°	60.8	60.8	60.8	60.8	60.8
85°	32.0	35.2	38.4	41.6	44.8
87.5°	19.2	19.2	22.4	25.6	28.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)