

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: P561414

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561414
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-81-87-EDD-90
Description: 1X4 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: 6159.0 lumens
Efficiency: N/A
Efficacy: 71.3 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

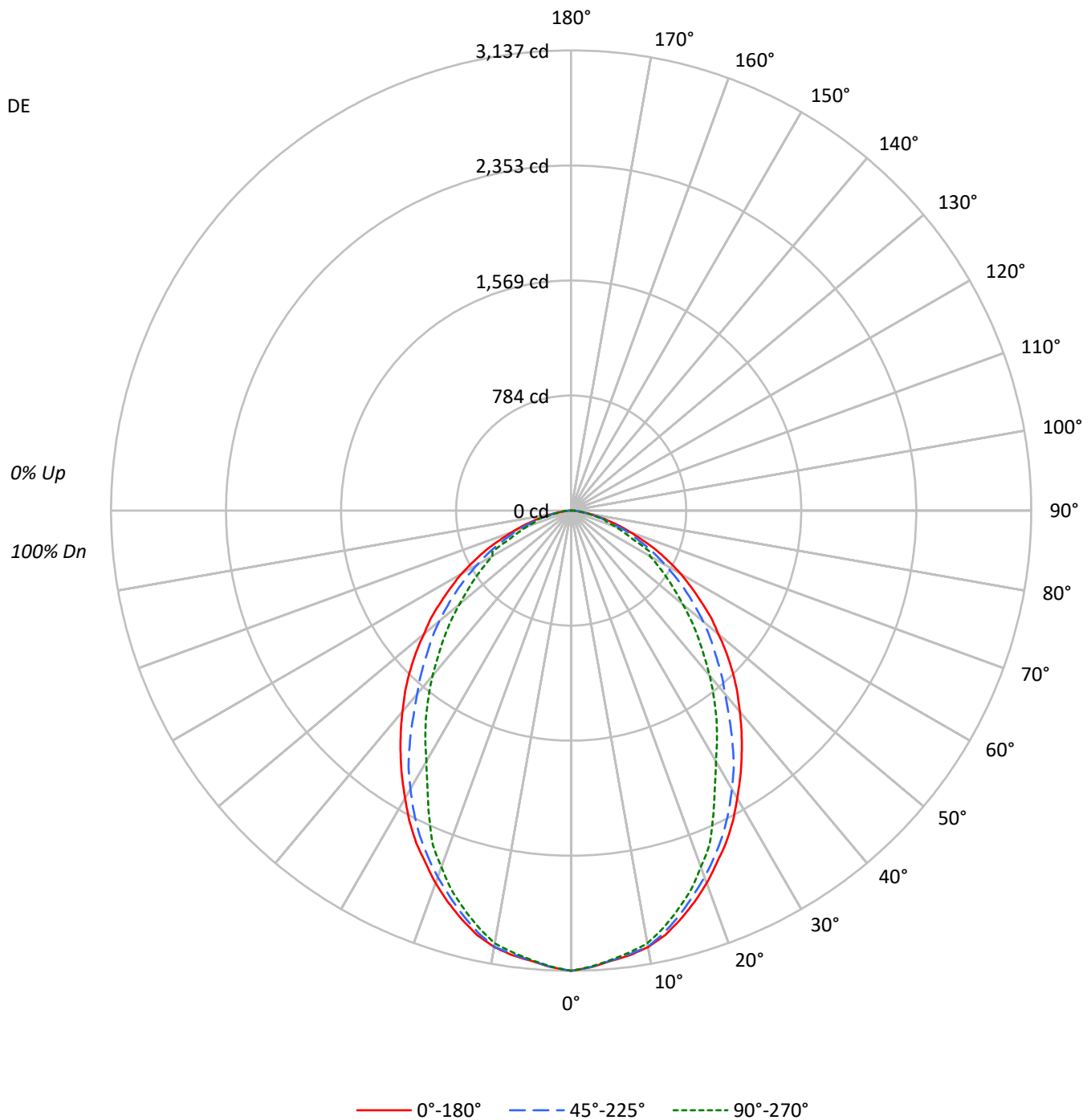
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8442	8442	8442
5°	8328	8318	8308
10°	8255	8246	8186
15°	8033	7952	7841
20°	7738	7613	7405
25°	7420	7258	6806
30°	7032	6807	6131
35°	6660	6291	5671
40°	6281	5733	5160
45°	5922	5300	4665
50°	5481	4919	4160
55°	5071	4458	3727
60°	4646	3982	3338
65°	4088	3487	2956
70°	3367	3054	2511
75°	2677	2338	2452
80°	1799	1686	1574
85°	1121	1343	1568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5922 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.0	4.7
10°-20°	801.5	13.0
20°-30°	1109.6	18.0
30°-40°	1183.2	19.2
40°-50°	1079.4	17.5
50°-60°	845.6	13.7
60°-70°	551.1	8.9
70°-80°	244.2	4.0
80°-90°	52.4	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°	2203.1	35.8
0°-40°	3386.3	55.0
0°-60°	5311.3	86.2
0°-90°	6159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3137	3137	3137	3137	3137	
5°	3083	3079	3079	3076	3076	293
15°	2883	2883	2854	2825	2814	811
25°	2499	2484	2445	2358	2292	1147
35°	2028	2013	1915	1770	1726	1268
45°	1556	1523	1393	1277	1226	1199
55°	1081	1048	950	838	794	969
65°	642	606	548	559	464	633
75°	258	239	225	214	236	276
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3137.3	3137.3	3137.3	3137.3	3137.3
2.5°	3115.6	3115.6	3115.6	3111.9	3111.9
5°	3082.9	3079.3	3079.3	3075.7	3075.7
7.5°	3057.5	3053.9	3050.3	3046.6	3039.4
10°	3021.2	3021.2	3017.6	2999.5	2995.9
12.5°	2963.2	2959.6	2945.1	2919.7	2912.4
15°	2883.4	2883.4	2854.4	2825.4	2814.5
17.5°	2796.4	2792.8	2756.5	2727.5	2713.0
20°	2702.1	2694.8	2658.6	2611.4	2586.0
22.5°	2596.9	2596.9	2553.4	2491.7	2466.3
25°	2499.0	2484.5	2444.6	2357.5	2292.2
27.5°	2386.5	2364.8	2321.2	2197.9	2121.8
30°	2263.2	2252.3	2190.7	2031.1	1973.1
32.5°	2147.2	2129.0	2063.7	1896.9	1849.7
35°	2027.5	2013.0	1915.0	1770.0	1726.4
37.5°	1907.8	1889.6	1766.3	1650.3	1595.9
40°	1788.1	1766.3	1632.1	1526.9	1468.9
42.5°	1675.7	1646.6	1516.1	1403.6	1338.3
45°	1556.0	1523.3	1392.7	1276.7	1225.9
47.5°	1436.3	1407.3	1287.6	1167.9	1109.8
50°	1309.3	1283.9	1175.1	1055.4	993.8
52.5°	1204.1	1164.3	1059.1	939.4	888.6
55°	1080.8	1048.2	950.3	837.8	794.3
57.5°	968.4	935.8	845.1	739.9	703.6
60°	863.2	816.1	739.9	649.2	620.2
62.5°	747.2	710.9	645.6	569.4	605.7
65°	642.0	605.7	547.7	558.6	464.2
67.5°	525.9	507.8	457.0	406.2	391.7
70°	428.0	406.2	388.1	333.7	319.2
72.5°	340.9	319.2	293.8	264.8	253.9
75°	257.5	239.4	224.9	214.0	235.8
77.5°	177.7	170.5	159.6	148.7	145.1
80°	116.1	112.4	108.8	105.2	101.6
82.5°	68.9	68.9	68.9	68.9	68.9
85°	36.3	39.9	43.5	47.2	50.8
87.5°	21.8	21.8	25.4	29.0	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)