

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: P561814

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561814
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-LD4-2STD-40-UNV-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 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: 4916.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

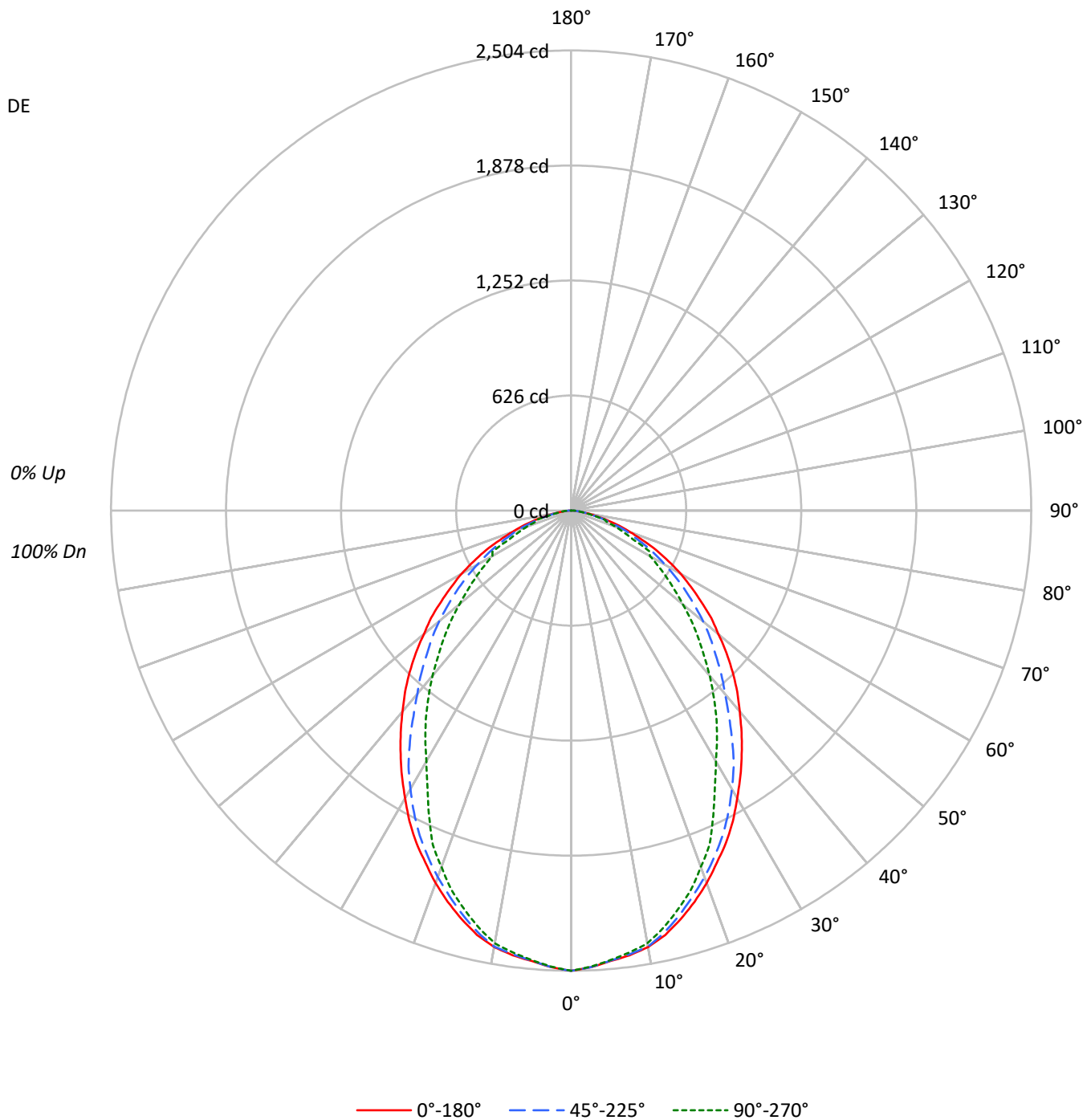
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6738	6738	6738
5°	6647	6639	6631
10°	6589	6581	6534
15°	6412	6347	6259
20°	6176	6077	5911
25°	5922	5793	5432
30°	5613	5433	4894
35°	5316	5021	4527
40°	5014	4576	4119
45°	4726	4231	3724
50°	4375	3927	3321
55°	4047	3559	2974
60°	3708	3179	2664
65°	3263	2783	2360
70°	2688	2437	2005
75°	2137	1866	1957
80°	1435	1345	1257
85°	892	1071	1250

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4726 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.1	4.7
10°-20°	639.7	13.0
20°-30°	885.7	18.0
30°-40°	944.4	19.2
40°-50°	861.5	17.5
50°-60°	674.9	13.7
60°-70°	439.9	8.9
70°-80°	194.9	4.0
80°-90°	41.8	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°	1758.5	35.8
0°-40°	2702.9	55.0
0°-60°	4239.4	86.2
0°-90°	4916.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4916.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2504	2504	2504	2504	2504	
5°	2461	2458	2458	2455	2455	234
15°	2302	2302	2278	2255	2246	647
25°	1995	1983	1951	1882	1830	916
35°	1618	1607	1528	1413	1378	1012
45°	1242	1216	1112	1019	978	957
55°	863	837	758	669	634	774
65°	512	484	437	446	371	505
75°	206	191	180	171	188	220
85°	29	32	35	38	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2504.1	2504.1	2504.1	2504.1	2504.1
2.5°	2486.8	2486.8	2486.8	2483.9	2483.9
5°	2460.7	2457.8	2457.8	2454.9	2454.9
7.5°	2440.5	2437.6	2434.7	2431.8	2426.0
10°	2411.5	2411.5	2408.6	2394.1	2391.2
12.5°	2365.2	2362.3	2350.7	2330.4	2324.7
15°	2301.5	2301.5	2278.3	2255.2	2246.5
17.5°	2232.0	2229.1	2200.2	2177.0	2165.4
20°	2156.7	2151.0	2122.0	2084.4	2064.1
22.5°	2072.8	2072.8	2038.1	1988.8	1968.6
25°	1994.6	1983.1	1951.2	1881.7	1829.6
27.5°	1904.9	1887.5	1852.8	1754.3	1693.6
30°	1806.5	1797.8	1748.6	1621.2	1574.9
32.5°	1713.8	1699.3	1647.2	1514.1	1476.4
35°	1618.3	1606.7	1528.5	1412.7	1378.0
37.5°	1522.8	1508.3	1409.8	1317.2	1273.8
40°	1427.2	1409.8	1302.7	1218.8	1172.5
42.5°	1337.5	1314.3	1210.1	1120.4	1068.2
45°	1241.9	1215.9	1111.7	1019.0	978.5
47.5°	1146.4	1123.2	1027.7	932.2	885.9
50°	1045.1	1024.8	938.0	842.4	793.2
52.5°	961.1	929.3	845.3	749.8	709.3
55°	862.7	836.6	758.5	668.7	634.0
57.5°	773.0	746.9	674.5	590.6	561.6
60°	689.0	651.4	590.6	518.2	495.0
62.5°	596.4	567.4	515.3	454.5	483.5
65°	512.4	483.5	437.1	445.8	370.6
67.5°	419.8	405.3	364.8	324.2	312.7
70°	341.6	324.2	309.8	266.3	254.8
72.5°	272.1	254.8	234.5	211.3	202.6
75°	205.5	191.1	179.5	170.8	188.2
77.5°	141.9	136.1	127.4	118.7	115.8
80°	92.6	89.7	86.8	84.0	81.1
82.5°	55.0	55.0	55.0	55.0	55.0
85°	28.9	31.8	34.7	37.6	40.5
87.5°	17.4	17.4	20.3	23.2	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)