

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: P561737

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561737
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-35-UNV-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5329.0 lumens
Efficiency: N/A
Efficacy: 80.0 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

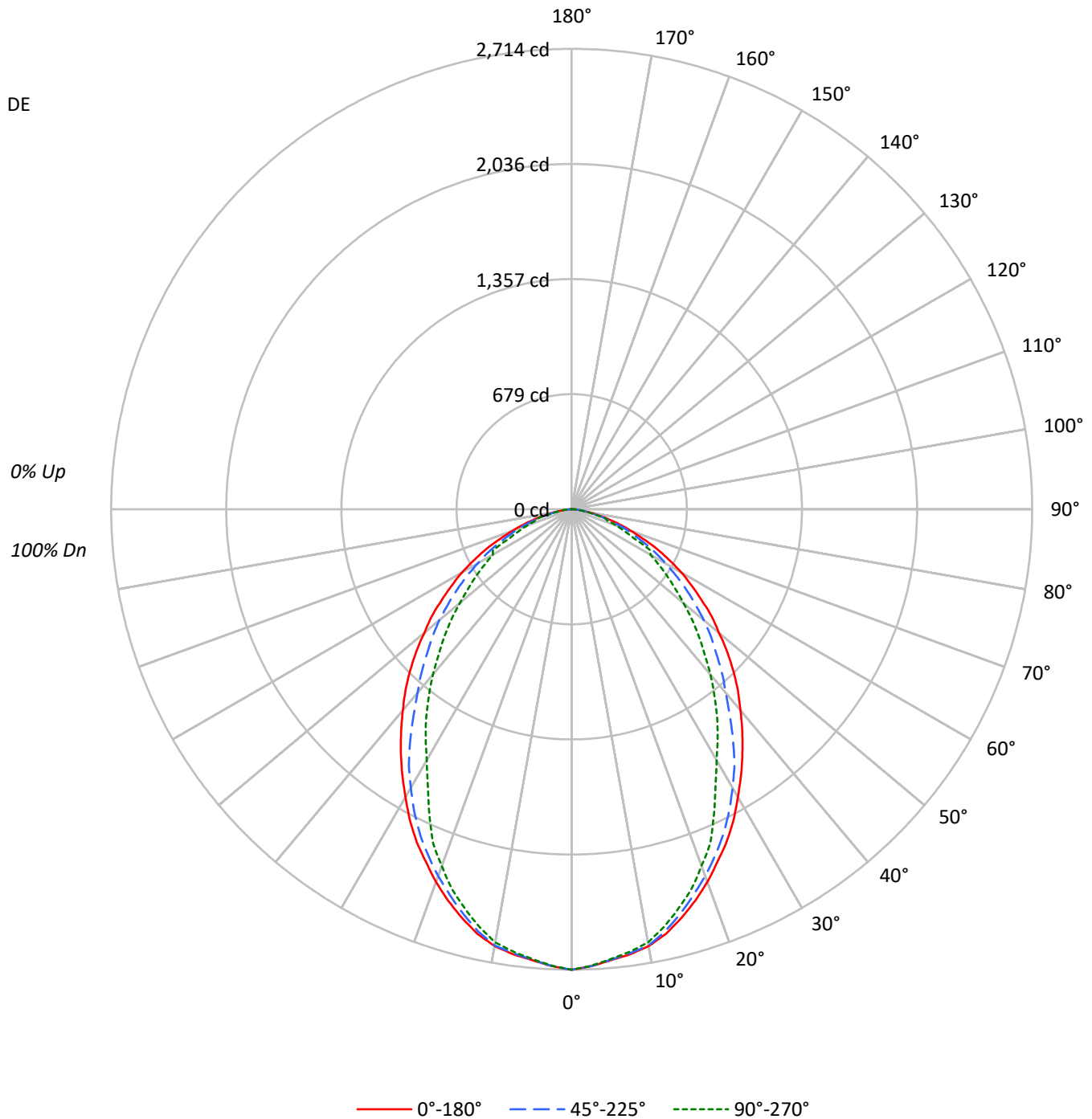
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	7305	7305	7305
5°	7205	7197	7189
10°	7143	7135	7083
15°	6950	6880	6784
20°	6695	6587	6407
25°	6420	6280	5889
30°	6085	5890	5305
35°	5763	5443	4907
40°	5435	4961	4465
45°	5124	4586	4037
50°	4743	4257	3600
55°	4388	3857	3225
60°	4020	3446	2888
65°	3537	3018	2558
70°	2913	2642	2173
75°	2316	2023	2121
80°	1556	1458	1362
85°	969	1164	1355

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5124 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.7	4.7
10°-20°	693.5	13.0
20°-30°	960.1	18.0
30°-40°	1023.7	19.2
40°-50°	933.9	17.5
50°-60°	731.7	13.7
60°-70°	476.9	8.9
70°-80°	211.3	4.0
80°-90°	45.4	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°	1906.2	35.8
0°-40°	2929.9	55.0
0°-60°	4595.5	86.2
0°-90°	5329.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5329.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2714	2714	2714	2714	2714	
5°	2667	2664	2664	2661	2661	253
15°	2495	2495	2470	2445	2435	701
25°	2162	2150	2115	2040	1983	993
35°	1754	1742	1657	1531	1494	1097
45°	1346	1318	1205	1105	1061	1037
55°	935	907	822	725	687	839
65°	556	524	474	483	402	547
75°	223	207	195	185	204	239
85°	31	34	38	41	44	44
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2714.5	2714.5	2714.5	2714.5	2714.5
2.5°	2695.7	2695.7	2695.7	2692.6	2692.6
5°	2667.4	2664.3	2664.3	2661.2	2661.2
7.5°	2645.5	2642.3	2639.2	2636.1	2629.8
10°	2614.1	2614.1	2611.0	2595.3	2592.1
12.5°	2563.9	2560.8	2548.2	2526.2	2520.0
15°	2494.8	2494.8	2469.7	2444.6	2435.2
17.5°	2419.5	2416.4	2385.0	2359.9	2347.4
20°	2337.9	2331.7	2300.3	2259.5	2237.5
22.5°	2246.9	2246.9	2209.3	2155.9	2134.0
25°	2162.2	2149.6	2115.1	2039.8	1983.3
27.5°	2064.9	2046.1	2008.4	1901.7	1835.8
30°	1958.2	1948.8	1895.5	1757.4	1707.2
32.5°	1857.8	1842.1	1785.6	1641.3	1600.5
35°	1754.2	1741.7	1657.0	1531.4	1493.8
37.5°	1650.7	1635.0	1528.3	1427.9	1380.8
40°	1547.1	1528.3	1412.2	1321.2	1271.0
42.5°	1449.8	1424.7	1311.8	1214.5	1158.0
45°	1346.3	1318.0	1205.1	1104.6	1060.7
47.5°	1242.7	1217.6	1114.1	1010.5	960.3
50°	1132.9	1110.9	1016.8	913.2	859.9
52.5°	1041.9	1007.4	916.3	812.8	768.9
55°	935.2	906.9	822.2	724.9	687.3
57.5°	837.9	809.6	731.2	640.2	608.8
60°	746.9	706.1	640.2	561.7	536.6
62.5°	646.5	615.1	558.6	492.7	524.1
65°	555.5	524.1	473.9	483.3	401.7
67.5°	455.0	439.3	395.4	351.5	338.9
70°	370.3	351.5	335.8	288.7	276.2
72.5°	295.0	276.2	254.2	229.1	219.7
75°	222.8	207.1	194.6	185.2	204.0
77.5°	153.8	147.5	138.1	128.7	125.5
80°	100.4	97.3	94.1	91.0	87.9
82.5°	59.6	59.6	59.6	59.6	59.6
85°	31.4	34.5	37.7	40.8	43.9
87.5°	18.8	18.8	22.0	25.1	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)