

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: P564084

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564084
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-24-4-LD4-4STD-40-UNV-80-86-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12837.0 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

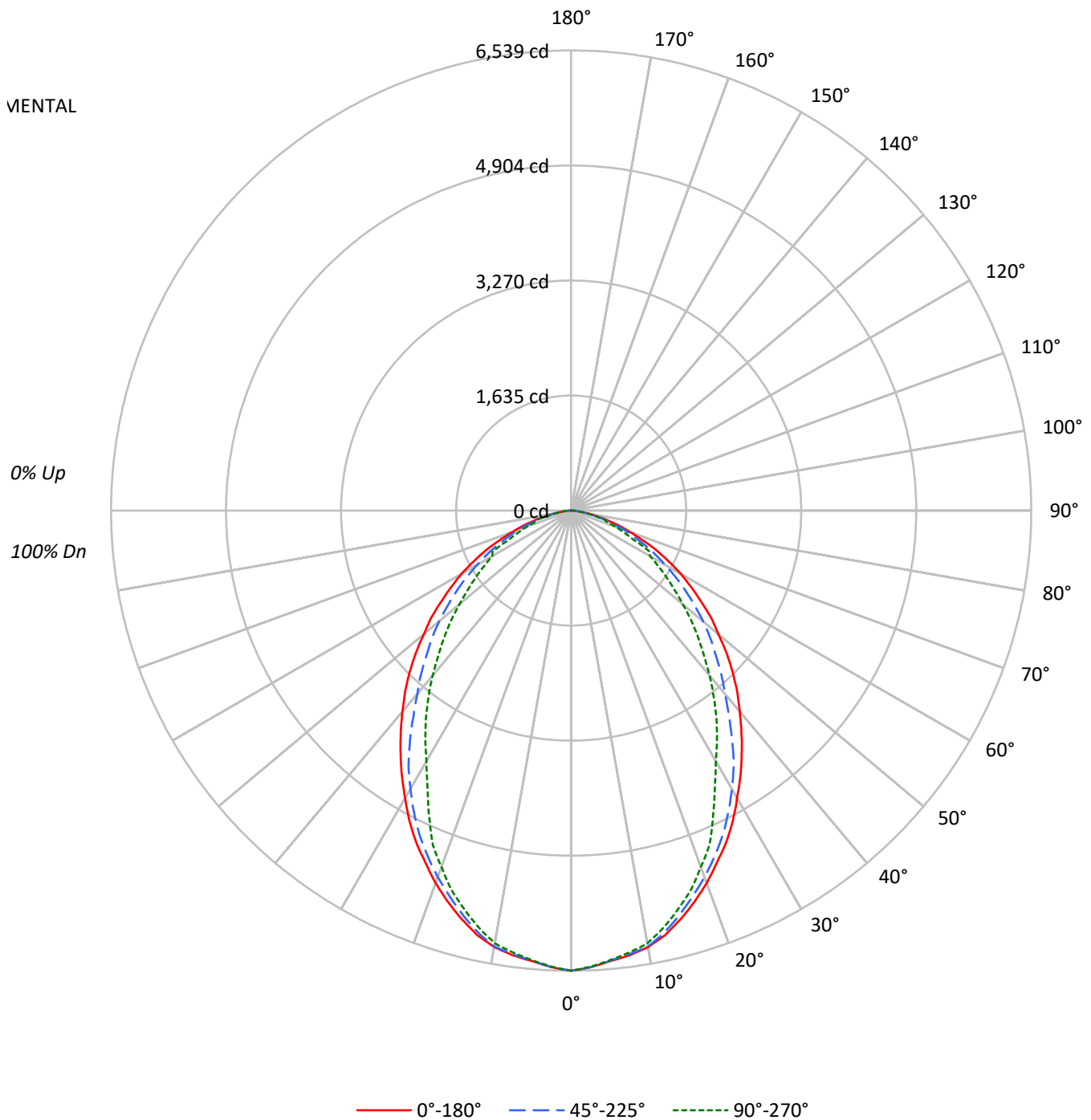
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8798	8798	8798
5°	8679	8668	8658
10°	8603	8593	8531
15°	8371	8287	8171
20°	8064	7934	7717
25°	7732	7564	7093
30°	7329	7094	6389
35°	6941	6556	5910
40°	6546	5975	5377
45°	6171	5524	4862
50°	5712	5127	4336
55°	5284	4646	3883
60°	4842	4150	3479
65°	4260	3634	3081
70°	3509	3182	2617
75°	2790	2437	2555
80°	1874	1757	1640
85°	1167	1400	1633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6171 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	608.7	4.7
10°-20°	1670.5	13.0
20°-30°	2312.7	18.0
30°-40°	2466.0	19.2
40°-50°	2249.7	17.5
50°-60°	1762.5	13.7
60°-70°	1148.7	8.9
70°-80°	508.9	4.0
80°-90°	109.3	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°	4591.9	35.8
0°-40°	7057.9	55.0
0°-60°	11070.1	86.2
0°-90°	12837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12837.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6539	6539	6539	6539	6539	
5°	6426	6418	6418	6410	6410	610
15°	6010	6010	5949	5889	5866	1690
25°	5208	5178	5095	4914	4778	2391
35°	4226	4196	3991	3689	3598	2642
45°	3243	3175	2903	2661	2555	2498
55°	2253	2185	1981	1746	1656	2021
65°	1338	1262	1142	1164	968	1319
75°	537	499	469	446	491	575
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6539.0	6539.0	6539.0	6539.0	6539.0
2.5°	6493.6	6493.6	6493.6	6486.1	6486.1
5°	6425.6	6418.0	6418.0	6410.5	6410.5
7.5°	6372.7	6365.1	6357.6	6350.0	6334.9
10°	6297.1	6297.1	6289.5	6251.7	6244.2
12.5°	6176.1	6168.6	6138.3	6085.4	6070.3
15°	6009.8	6009.8	5949.4	5888.9	5866.2
17.5°	5828.4	5820.8	5745.2	5684.8	5654.5
20°	5631.9	5616.7	5541.1	5442.9	5389.9
22.5°	5412.6	5412.6	5321.9	5193.4	5140.5
25°	5208.5	5178.3	5095.1	4913.7	4777.6
27.5°	4974.2	4928.8	4838.1	4581.1	4422.3
30°	4717.1	4694.5	4566.0	4233.3	4112.4
32.5°	4475.2	4437.4	4301.4	3953.6	3855.4
35°	4225.8	4195.5	3991.4	3689.1	3598.3
37.5°	3976.3	3938.5	3681.5	3439.6	3326.2
40°	3726.8	3681.5	3401.8	3182.6	3061.6
42.5°	3492.5	3432.0	3159.9	2925.5	2789.5
45°	3243.0	3175.0	2902.9	2661.0	2555.1
47.5°	2993.6	2933.1	2683.6	2434.2	2313.2
50°	2729.0	2676.1	2449.3	2199.8	2071.3
52.5°	2509.8	2426.6	2207.4	1957.9	1852.1
55°	2252.7	2184.7	1980.6	1746.3	1655.5
57.5°	2018.4	1950.4	1761.4	1542.1	1466.5
60°	1799.2	1700.9	1542.1	1353.2	1292.7
62.5°	1557.3	1481.7	1345.6	1186.8	1262.4
65°	1338.0	1262.4	1141.5	1164.2	967.6
67.5°	1096.1	1058.3	952.5	846.7	816.4
70°	892.0	846.7	808.9	695.5	665.2
72.5°	710.6	665.2	612.3	551.8	529.2
75°	536.7	498.9	468.7	446.0	491.4
77.5°	370.4	355.3	332.6	309.9	302.4
80°	241.9	234.3	226.8	219.2	211.7
82.5°	143.6	143.6	143.6	143.6	143.6
85°	75.6	83.2	90.7	98.3	105.8
87.5°	45.4	45.4	52.9	60.5	68.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)