

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: P564146

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564146
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-50-UNV-80-85-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13672.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

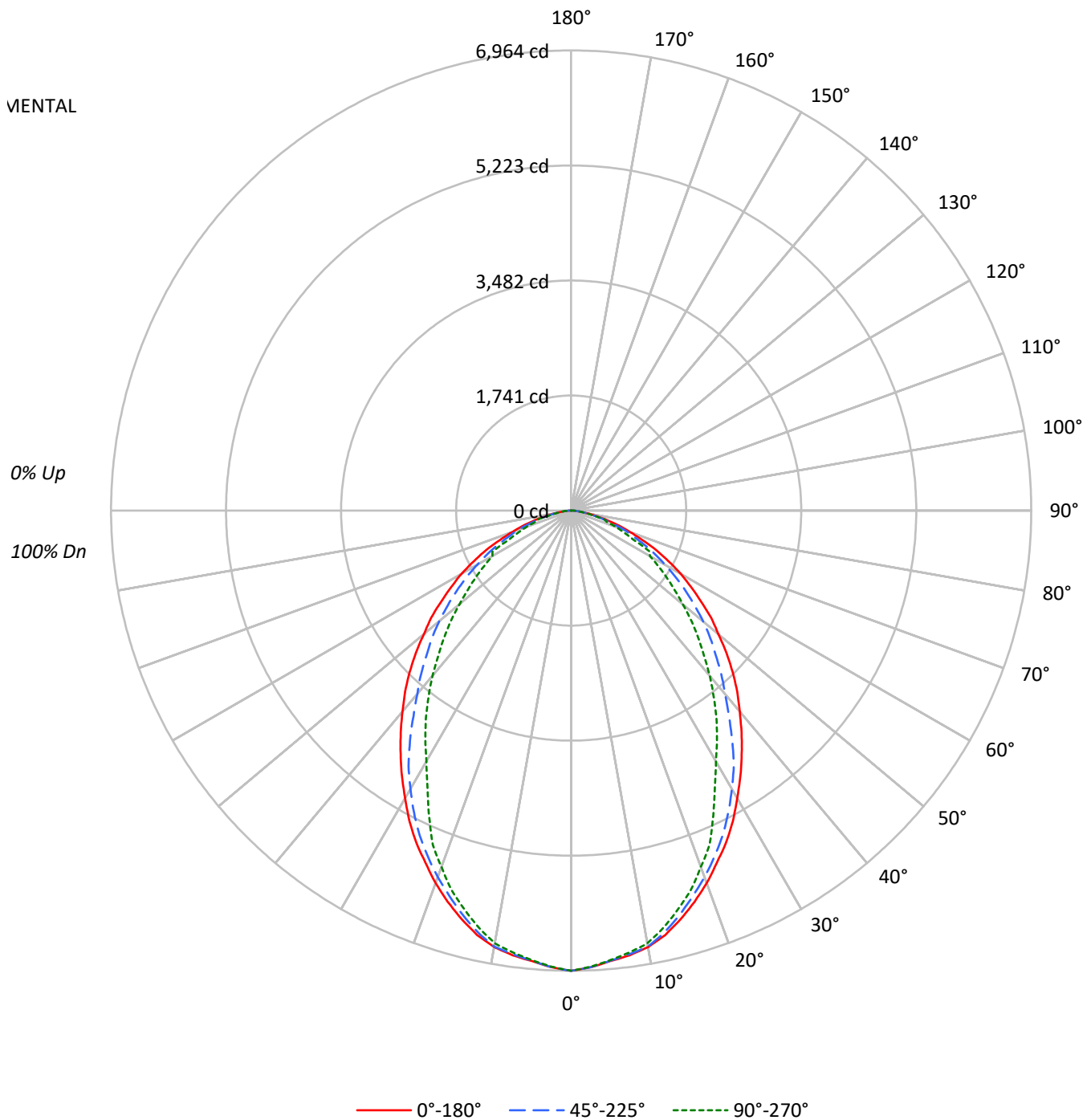
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9370	9370	9370
5°	9243	9232	9221
10°	9163	9152	9086
15°	8916	8826	8703
20°	8588	8450	8219
25°	8235	8056	7554
30°	7805	7555	6805
35°	7393	6983	6295
40°	6972	6364	5727
45°	6572	5883	5178
50°	6084	5460	4618
55°	5628	4948	4136
60°	5156	4420	3705
65°	4537	3870	3281
70°	3737	3389	2787
75°	2972	2595	2720
80°	1996	1871	1746
85°	1243	1491	1740

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6572 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	648.3	4.7
10°-20°	1779.2	13.0
20°-30°	2463.1	18.0
30°-40°	2626.4	19.2
40°-50°	2396.1	17.5
50°-60°	1877.1	13.7
60°-70°	1223.4	8.9
70°-80°	542.0	4.0
80°-90°	116.4	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°	4890.6	35.8
0°-40°	7517.0	55.0
0°-60°	11790.2	86.2
0°-90°	13672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6964	6964	6964	6964	6964	
5°	6844	6836	6836	6828	6828	650
15°	6401	6401	6336	6272	6248	1799
25°	5547	5515	5426	5233	5088	2547
35°	4501	4468	4251	3929	3832	2814
45°	3454	3382	3092	2834	2721	2661
55°	2399	2327	2109	1860	1763	2152
65°	1425	1345	1216	1240	1031	1404
75°	572	531	499	475	523	613
85°	80	89	97	105	113	112
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6964.3	6964.3	6964.3	6964.3	6964.3
2.5°	6916.0	6916.0	6916.0	6908.0	6908.0
5°	6843.6	6835.5	6835.5	6827.5	6827.5
7.5°	6787.2	6779.2	6771.1	6763.1	6747.0
10°	6706.7	6706.7	6698.6	6658.4	6650.3
12.5°	6577.9	6569.8	6537.6	6481.3	6465.2
15°	6400.7	6400.7	6336.3	6271.9	6247.8
17.5°	6207.5	6199.5	6119.0	6054.5	6022.3
20°	5998.2	5982.1	5901.6	5796.9	5740.5
22.5°	5764.7	5764.7	5668.1	5531.2	5474.9
25°	5547.3	5515.1	5426.5	5233.3	5088.4
27.5°	5297.7	5249.4	5152.8	4879.1	4710.0
30°	5024.0	4999.8	4863.0	4508.7	4379.9
32.5°	4766.3	4726.1	4581.2	4210.8	4106.1
35°	4500.7	4468.4	4251.1	3929.0	3832.4
37.5°	4235.0	4194.7	3921.0	3663.3	3542.6
40°	3969.3	3921.0	3623.1	3389.6	3260.8
42.5°	3719.7	3655.3	3365.4	3115.8	2970.9
45°	3454.0	3381.5	3091.7	2834.0	2721.3
47.5°	3188.3	3123.9	2858.2	2592.5	2463.7
50°	2906.5	2850.1	2608.6	2342.9	2206.0
52.5°	2673.0	2584.5	2351.0	2085.3	1972.6
55°	2399.3	2326.8	2109.4	1859.8	1763.2
57.5°	2149.7	2077.2	1875.9	1642.5	1561.9
60°	1916.2	1811.5	1642.5	1441.2	1376.8
62.5°	1658.6	1578.0	1433.1	1264.0	1344.6
65°	1425.1	1344.6	1215.7	1239.9	1030.6
67.5°	1167.4	1127.2	1014.5	901.7	869.5
70°	950.0	901.7	861.5	740.7	708.5
72.5°	756.8	708.5	652.2	587.7	563.6
75°	571.6	531.4	499.2	475.0	523.3
77.5°	394.5	378.4	354.3	330.1	322.1
80°	257.6	249.6	241.5	233.5	225.4
82.5°	153.0	153.0	153.0	153.0	153.0
85°	80.5	88.6	96.6	104.7	112.7
87.5°	48.3	48.3	56.4	64.4	72.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)