

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: P563405

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563405
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-LD4-3LO-50-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8456.0 lumens
Efficiency: N/A
Efficacy: 120.5 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

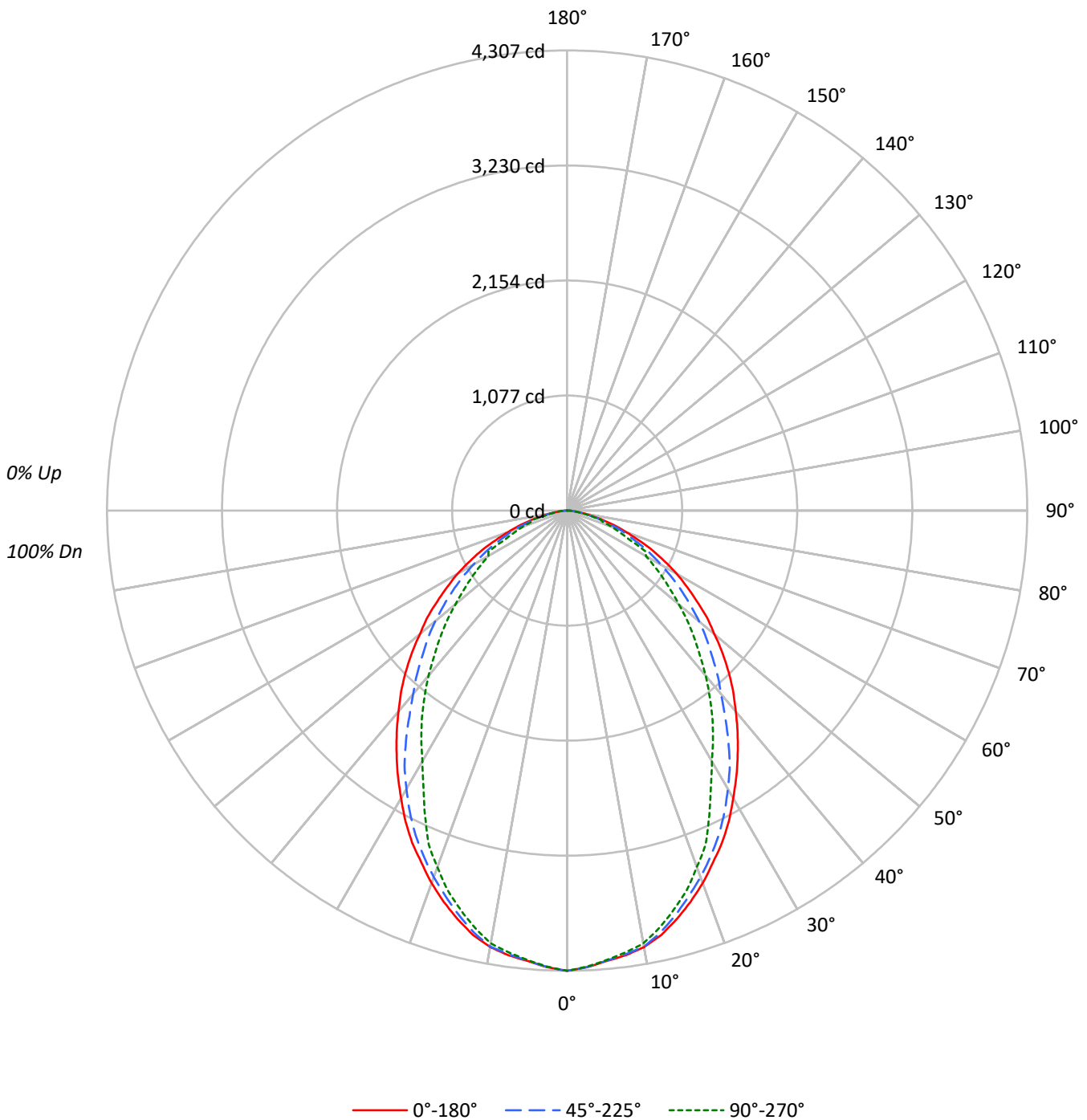
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5796	5796	5796
5°	5717	5710	5703
10°	5667	5660	5620
15°	5514	5459	5383
20°	5312	5226	5084
25°	5094	4983	4672
30°	4828	4673	4209
35°	4572	4319	3893
40°	4312	3936	3542
45°	4065	3639	3203
50°	3763	3377	2856
55°	3481	3061	2558
60°	3189	2733	2291
65°	2806	2394	2029
70°	2312	2096	1724
75°	1838	1605	1683
80°	1234	1158	1080
85°	769	923	1076

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4065 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.0	4.7
10°-20°	1100.4	13.0
20°-30°	1523.4	18.0
30°-40°	1624.4	19.2
40°-50°	1481.9	17.5
50°-60°	1161.0	13.7
60°-70°	756.7	8.9
70°-80°	335.2	4.0
80°-90°	72.0	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°	3024.8	35.8
0°-40°	4649.2	55.0
0°-60°	7292.1	86.2
0°-90°	8456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4307	4307	4307	4307	4307	
5°	4233	4228	4228	4223	4223	402
15°	3959	3959	3919	3879	3864	1113
25°	3431	3411	3356	3237	3147	1575
35°	2784	2764	2629	2430	2370	1740
45°	2136	2091	1912	1753	1683	1646
55°	1484	1439	1305	1150	1090	1331
65°	881	832	752	767	637	869
75°	354	329	309	294	324	379
85°	50	55	60	65	70	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4307.4	4307.4	4307.4	4307.4	4307.4
2.5°	4277.5	4277.5	4277.5	4272.5	4272.5
5°	4232.7	4227.7	4227.7	4222.7	4222.7
7.5°	4197.8	4192.8	4187.9	4182.9	4172.9
10°	4148.0	4148.0	4143.0	4118.1	4113.2
12.5°	4068.4	4063.4	4043.5	4008.6	3998.6
15°	3958.8	3958.8	3919.0	3879.1	3864.2
17.5°	3839.3	3834.3	3784.5	3744.7	3724.8
20°	3709.8	3699.9	3650.1	3585.3	3550.5
22.5°	3565.4	3565.4	3505.7	3421.0	3386.1
25°	3431.0	3411.0	3356.3	3236.8	3147.1
27.5°	3276.6	3246.7	3187.0	3017.7	2913.1
30°	3107.3	3092.3	3007.7	2788.6	2708.9
32.5°	2947.9	2923.0	2833.4	2604.3	2539.6
35°	2783.6	2763.7	2629.2	2430.1	2370.3
37.5°	2619.3	2594.4	2425.1	2265.7	2191.0
40°	2455.0	2425.1	2240.8	2096.4	2016.7
42.5°	2300.6	2260.7	2081.5	1927.1	1837.5
45°	2136.3	2091.4	1912.2	1752.8	1683.1
47.5°	1971.9	1932.1	1767.8	1603.4	1523.8
50°	1797.6	1762.8	1613.4	1449.1	1364.4
52.5°	1653.2	1598.5	1454.0	1289.7	1220.0
55°	1483.9	1439.1	1304.7	1150.3	1090.5
57.5°	1329.6	1284.7	1160.3	1015.8	966.0
60°	1185.2	1120.4	1015.8	891.4	851.5
62.5°	1025.8	976.0	886.4	781.8	831.6
65°	881.4	831.6	751.9	766.9	637.4
67.5°	722.0	697.1	627.4	557.7	537.8
70°	587.6	557.7	532.8	458.1	438.2
72.5°	468.1	438.2	403.3	363.5	348.6
75°	353.6	328.7	308.7	293.8	323.7
77.5°	244.0	234.0	219.1	204.2	199.2
80°	159.3	154.4	149.4	144.4	139.4
82.5°	94.6	94.6	94.6	94.6	94.6
85°	49.8	54.8	59.8	64.7	69.7
87.5°	29.9	29.9	34.9	39.8	44.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)