

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: P564116

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564116
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-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11938.0 lumens
Efficiency: N/A
Efficacy: 89.6 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

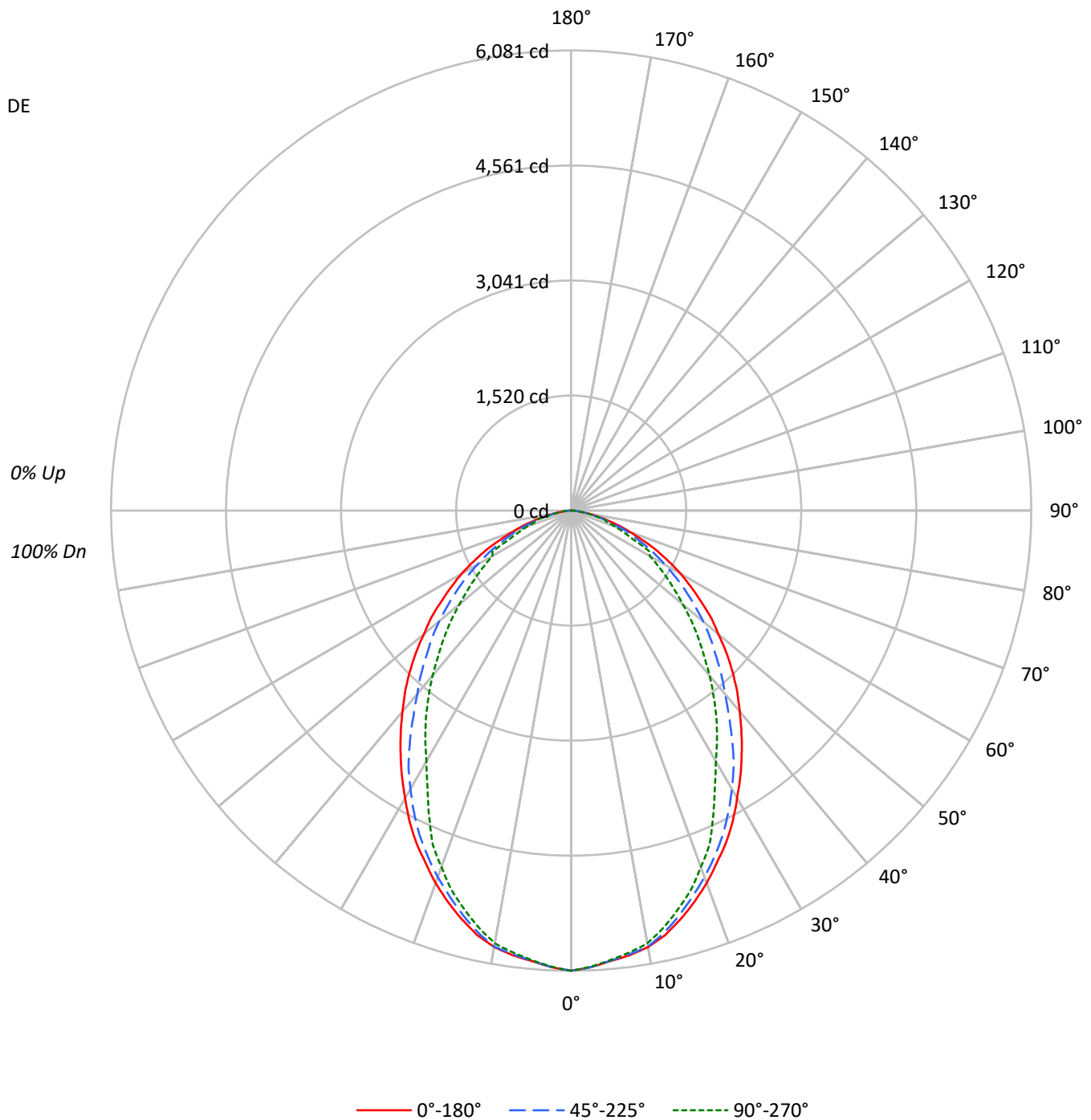
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8182	8182	8182
5°	8071	8061	8052
10°	8001	7991	7934
15°	7785	7707	7599
20°	7499	7378	7177
25°	7191	7034	6596
30°	6815	6597	5942
35°	6455	6097	5496
40°	6088	5557	5001
45°	5739	5137	4521
50°	5312	4768	4032
55°	4914	4321	3612
60°	4503	3859	3235
65°	3961	3379	2865
70°	3264	2959	2434
75°	2595	2266	2376
80°	1743	1634	1525
85°	1085	1303	1519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5739 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	566.1	4.7
10°-20°	1553.5	13.0
20°-30°	2150.7	18.0
30°-40°	2293.3	19.2
40°-50°	2092.2	17.5
50°-60°	1639.1	13.7
60°-70°	1068.3	8.9
70°-80°	473.3	4.0
80°-90°	101.6	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°	4270.3	35.8
0°-40°	6563.6	55.0
0°-60°	10294.9	86.2
0°-90°	11938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11938.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6081	6081	6081	6081	6081	
5°	5976	5969	5969	5962	5962	567
15°	5589	5589	5533	5476	5455	1571
25°	4844	4816	4738	4570	4443	2224
35°	3930	3902	3712	3431	3346	2457
45°	3016	2953	2700	2475	2376	2323
55°	2095	2032	1842	1624	1540	1879
65°	1244	1174	1062	1083	900	1226
75°	499	464	436	415	457	535
85°	70	77	84	91	98	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6081.1	6081.1	6081.1	6081.1	6081.1
2.5°	6038.9	6038.9	6038.9	6031.8	6031.8
5°	5975.6	5968.6	5968.6	5961.5	5961.5
7.5°	5926.4	5919.4	5912.3	5905.3	5891.2
10°	5856.1	5856.1	5849.1	5813.9	5806.9
12.5°	5743.6	5736.6	5708.5	5659.3	5645.2
15°	5588.9	5588.9	5532.7	5476.5	5455.4
17.5°	5420.2	5413.2	5342.9	5286.7	5258.5
20°	5237.4	5223.4	5153.1	5061.7	5012.5
22.5°	5033.6	5033.6	4949.2	4829.7	4780.5
25°	4843.8	4815.6	4738.3	4569.6	4443.0
27.5°	4625.8	4583.6	4499.3	4260.3	4112.6
30°	4386.8	4365.7	4246.2	3936.9	3824.4
32.5°	4161.8	4126.7	4000.1	3676.8	3585.4
35°	3929.8	3901.7	3711.9	3430.7	3346.3
37.5°	3697.8	3662.7	3423.7	3198.7	3093.3
40°	3465.9	3423.7	3163.6	2959.7	2847.2
42.5°	3247.9	3191.7	2938.6	2720.7	2594.1
45°	3015.9	2952.7	2699.6	2474.6	2376.2
47.5°	2783.9	2727.7	2495.7	2263.7	2151.2
50°	2537.9	2488.7	2277.8	2045.8	1926.3
52.5°	2334.0	2256.7	2052.8	1820.8	1722.4
55°	2095.0	2031.7	1841.9	1624.0	1539.6
57.5°	1877.0	1813.8	1638.0	1434.1	1363.8
60°	1673.2	1581.8	1434.1	1258.4	1202.2
62.5°	1448.2	1377.9	1251.4	1103.7	1174.0
65°	1244.3	1174.0	1061.5	1082.6	899.9
67.5°	1019.4	984.2	885.8	787.4	759.3
70°	829.6	787.4	752.2	646.8	618.7
72.5°	660.8	618.7	569.4	513.2	492.1
75°	499.1	464.0	435.9	414.8	457.0
77.5°	344.5	330.4	309.3	288.2	281.2
80°	225.0	217.9	210.9	203.9	196.8
82.5°	133.6	133.6	133.6	133.6	133.6
85°	70.3	77.3	84.4	91.4	98.4
87.5°	42.2	42.2	49.2	56.2	63.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)