

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: P563968

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563968
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-LD4-4LO-50-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9895.0 lumens
Efficiency: N/A
Efficacy: 105.7 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

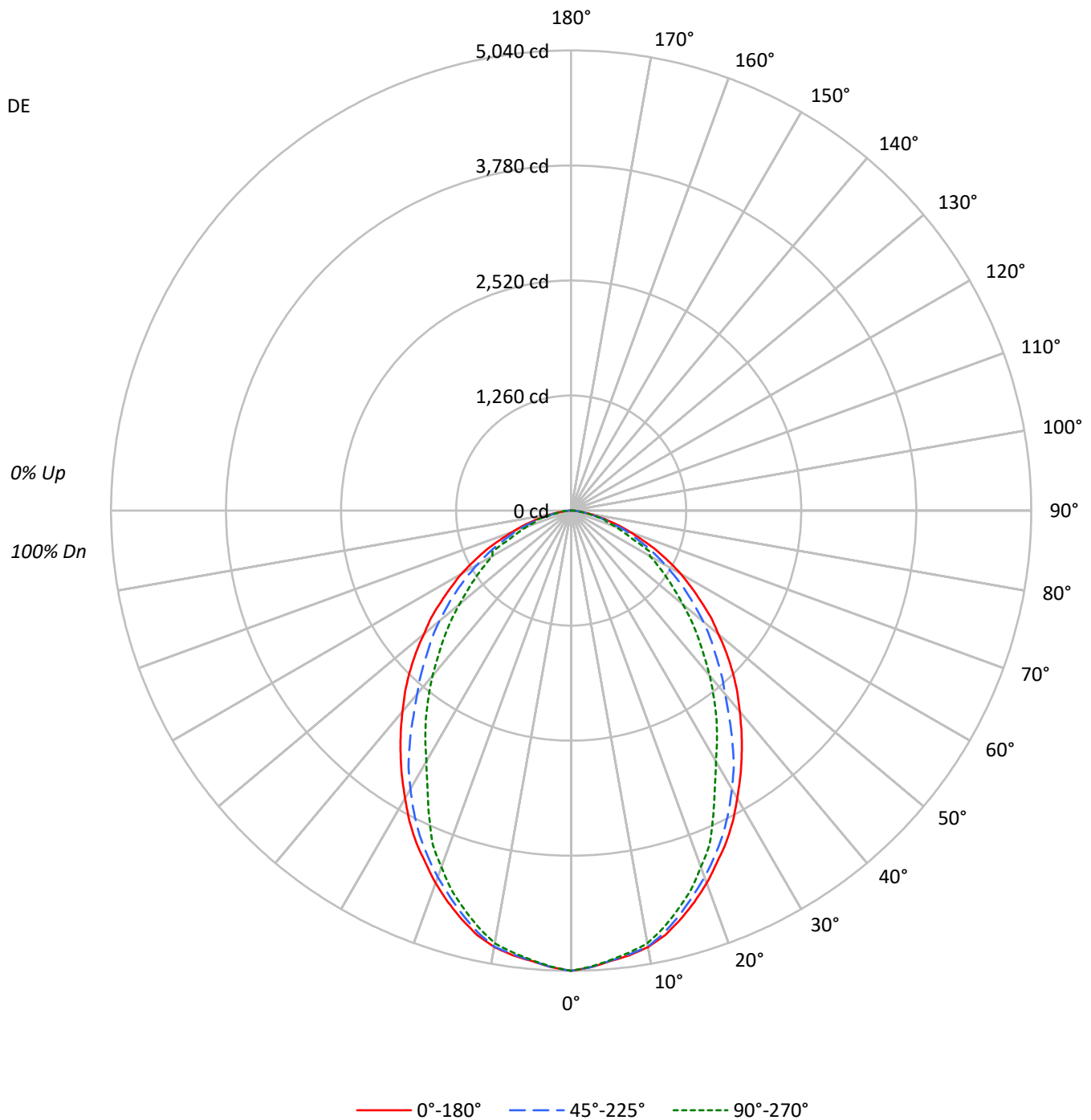
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6782	6782	6782
5°	6690	6682	6674
10°	6632	6624	6576
15°	6453	6388	6299
20°	6216	6116	5949
25°	5960	5831	5467
30°	5649	5468	4925
35°	5350	5054	4556
40°	5046	4606	4145
45°	4757	4258	3748
50°	4403	3952	3342
55°	4073	3581	2993
60°	3732	3199	2681
65°	3284	2801	2375
70°	2705	2453	2017
75°	2151	1878	1969
80°	1445	1354	1265
85°	900	1079	1260

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4757 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	469.2	4.7
10°-20°	1287.7	13.0
20°-30°	1782.7	18.0
30°-40°	1900.9	19.2
40°-50°	1734.1	17.5
50°-60°	1358.6	13.7
60°-70°	885.4	8.9
70°-80°	392.3	4.0
80°-90°	84.2	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°	3539.5	35.8
0°-40°	5440.4	55.0
0°-60°	8533.1	86.2
0°-90°	9895.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9895.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5040	5040	5040	5040	5040	
5°	4953	4947	4947	4941	4941	470
15°	4632	4632	4586	4539	4522	1302
25°	4015	3992	3927	3788	3683	1843
35°	3257	3234	3077	2844	2774	2036
45°	2500	2447	2238	2051	1970	1926
55°	1736	1684	1527	1346	1276	1557
65°	1031	973	880	897	746	1016
75°	414	385	361	344	379	443
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5040.4	5040.4	5040.4	5040.4	5040.4
2.5°	5005.4	5005.4	5005.4	4999.6	4999.6
5°	4953.0	4947.1	4947.1	4941.3	4941.3
7.5°	4912.2	4906.4	4900.5	4894.7	4883.1
10°	4853.9	4853.9	4848.1	4819.0	4813.1
12.5°	4760.7	4754.9	4731.5	4690.8	4679.1
15°	4632.5	4632.5	4585.9	4539.3	4521.8
17.5°	4492.6	4486.8	4428.5	4381.9	4358.6
20°	4341.1	4329.5	4271.2	4195.5	4154.7
22.5°	4172.2	4172.2	4102.2	4003.2	3962.4
25°	4014.8	3991.5	3927.4	3787.6	3682.7
27.5°	3834.2	3799.2	3729.3	3531.2	3408.8
30°	3636.1	3618.6	3519.5	3263.1	3169.9
32.5°	3449.6	3420.5	3315.6	3047.5	2971.8
35°	3257.3	3234.0	3076.7	2843.6	2773.7
37.5°	3065.0	3035.9	2837.8	2651.3	2563.9
40°	2872.7	2837.8	2622.2	2453.2	2359.9
42.5°	2692.1	2645.5	2435.7	2255.1	2150.2
45°	2499.8	2447.4	2237.6	2051.1	1969.5
47.5°	2307.5	2260.9	2068.6	1876.3	1783.1
50°	2103.6	2062.8	1888.0	1695.7	1596.6
52.5°	1934.6	1870.5	1701.5	1509.2	1427.6
55°	1736.5	1684.0	1526.7	1346.0	1276.1
57.5°	1555.8	1503.4	1357.7	1188.7	1130.4
60°	1386.8	1311.1	1188.7	1043.0	996.4
62.5°	1200.4	1142.1	1037.2	914.8	973.1
65°	1031.4	973.1	879.9	897.4	745.9
67.5°	844.9	815.8	734.2	652.6	629.3
70°	687.6	652.6	623.5	536.1	512.8
72.5°	547.7	512.8	472.0	425.4	407.9
75°	413.7	384.6	361.3	343.8	378.8
77.5°	285.5	273.9	256.4	238.9	233.1
80°	186.5	180.6	174.8	169.0	163.2
82.5°	110.7	110.7	110.7	110.7	110.7
85°	58.3	64.1	69.9	75.8	81.6
87.5°	35.0	35.0	40.8	46.6	52.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)