

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: P563928

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563928
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-40-UNV-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

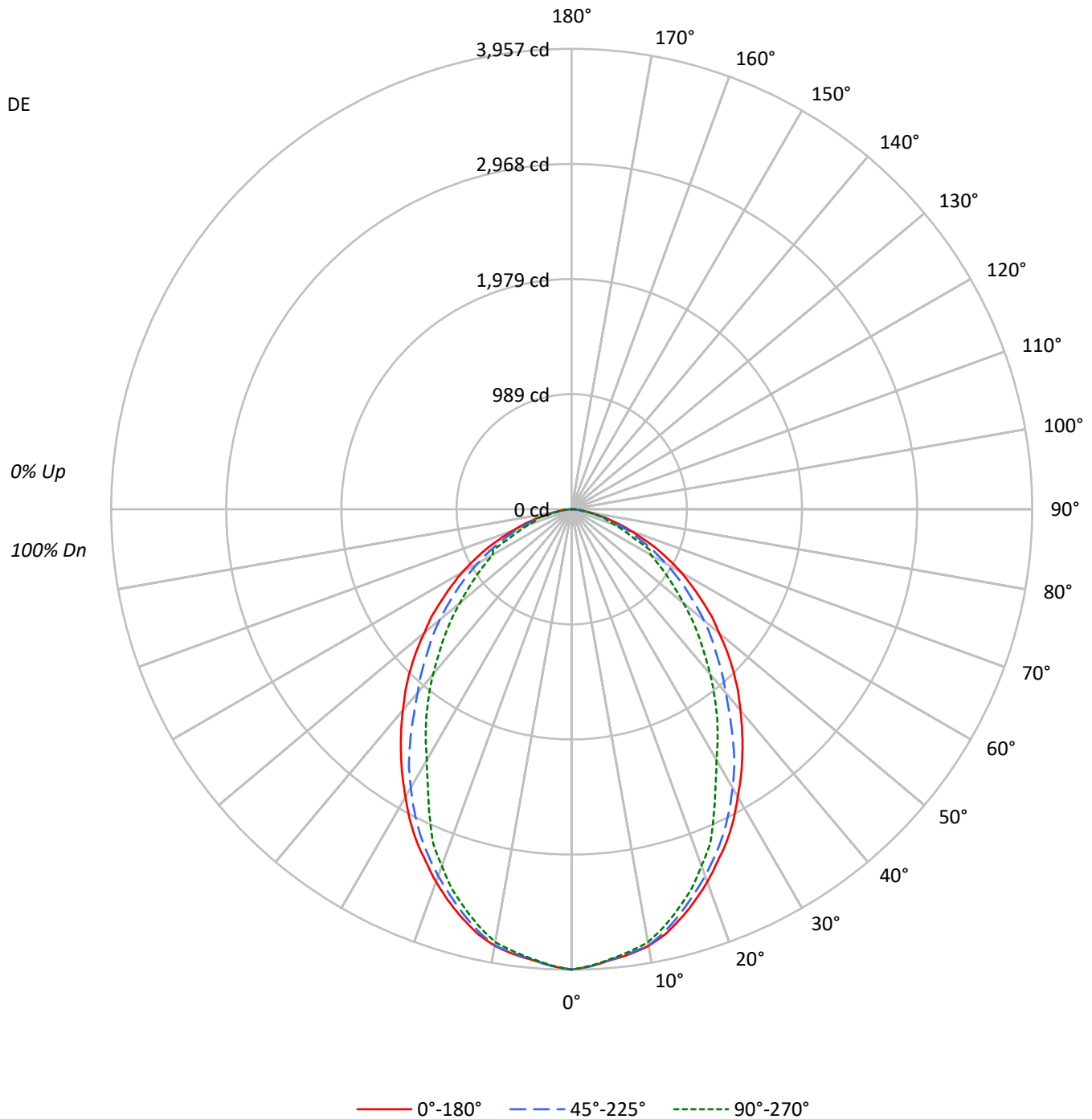
Lumens per Lamp: N/A
Luminaire Lumens: 7768.0 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	5324	5324	5324
5°	5252	5245	5239
10°	5206	5200	5162
15°	5066	5015	4945
20°	4880	4801	4670
25°	4679	4577	4292
30°	4435	4293	3866
35°	4200	3967	3576
40°	3961	3616	3254
45°	3734	3342	2942
50°	3457	3102	2624
55°	3198	2811	2350
60°	2930	2511	2105
65°	2578	2199	1864
70°	2124	1926	1584
75°	1688	1474	1546
80°	1134	1063	993
85°	706	848	988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3734 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.3	4.7
10°-20°	1010.9	13.0
20°-30°	1399.5	18.0
30°-40°	1492.2	19.2
40°-50°	1361.4	17.5
50°-60°	1066.5	13.7
60°-70°	695.1	8.9
70°-80°	308.0	4.0
80°-90°	66.1	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°	2778.7	35.8
0°-40°	4270.9	55.0
0°-60°	6698.8	86.2
0°-90°	7768.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3957	3957	3957	3957	3957	
5°	3888	3884	3884	3879	3879	369
15°	3637	3637	3600	3564	3550	1022
25°	3152	3134	3083	2973	2891	1447
35°	2557	2539	2415	2232	2177	1599
45°	1962	1921	1757	1610	1546	1512
55°	1363	1322	1198	1057	1002	1223
65°	810	764	691	704	586	798
75°	325	302	284	270	297	348
85°	46	50	55	60	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3956.9	3956.9	3956.9	3956.9	3956.9
2.5°	3929.5	3929.5	3929.5	3924.9	3924.9
5°	3888.3	3883.7	3883.7	3879.1	3879.1
7.5°	3856.3	3851.7	3847.1	3842.6	3833.4
10°	3810.5	3810.5	3806.0	3783.1	3778.5
12.5°	3737.3	3732.8	3714.5	3682.4	3673.3
15°	3636.7	3636.7	3600.1	3563.5	3549.8
17.5°	3526.9	3522.3	3476.6	3440.0	3421.7
20°	3408.0	3398.8	3353.1	3293.6	3261.6
22.5°	3275.3	3275.3	3220.4	3142.7	3110.6
25°	3151.8	3133.5	3083.2	2973.4	2891.1
27.5°	3010.0	2982.6	2927.7	2772.1	2676.1
30°	2854.5	2840.7	2763.0	2561.7	2488.5
32.5°	2708.1	2685.2	2602.9	2392.4	2333.0
35°	2557.1	2538.8	2415.3	2232.3	2177.4
37.5°	2406.2	2383.3	2227.8	2081.4	2012.8
40°	2255.2	2227.8	2058.5	1925.9	1852.7
42.5°	2113.4	2076.8	1912.1	1770.3	1688.0
45°	1962.4	1921.3	1756.6	1610.2	1546.2
47.5°	1811.5	1774.9	1623.9	1473.0	1399.8
50°	1651.4	1619.4	1482.1	1331.2	1253.4
52.5°	1518.7	1468.4	1335.7	1184.8	1120.7
55°	1363.2	1322.0	1198.5	1056.7	1001.8
57.5°	1221.4	1180.2	1065.9	933.2	887.4
60°	1088.7	1029.3	933.2	818.8	782.2
62.5°	942.3	896.6	814.3	718.2	763.9
65°	809.7	763.9	690.7	704.5	585.5
67.5°	663.3	640.4	576.4	512.3	494.0
70°	539.8	512.3	489.5	420.9	402.6
72.5°	430.0	402.6	370.5	333.9	320.2
75°	324.8	301.9	283.6	269.9	297.3
77.5°	224.1	215.0	201.3	187.6	183.0
80°	146.4	141.8	137.2	132.7	128.1
82.5°	86.9	86.9	86.9	86.9	86.9
85°	45.7	50.3	54.9	59.5	64.0
87.5°	27.4	27.4	32.0	36.6	41.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)