

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: P563527

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563527
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-LD4-3STD-40-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10532.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

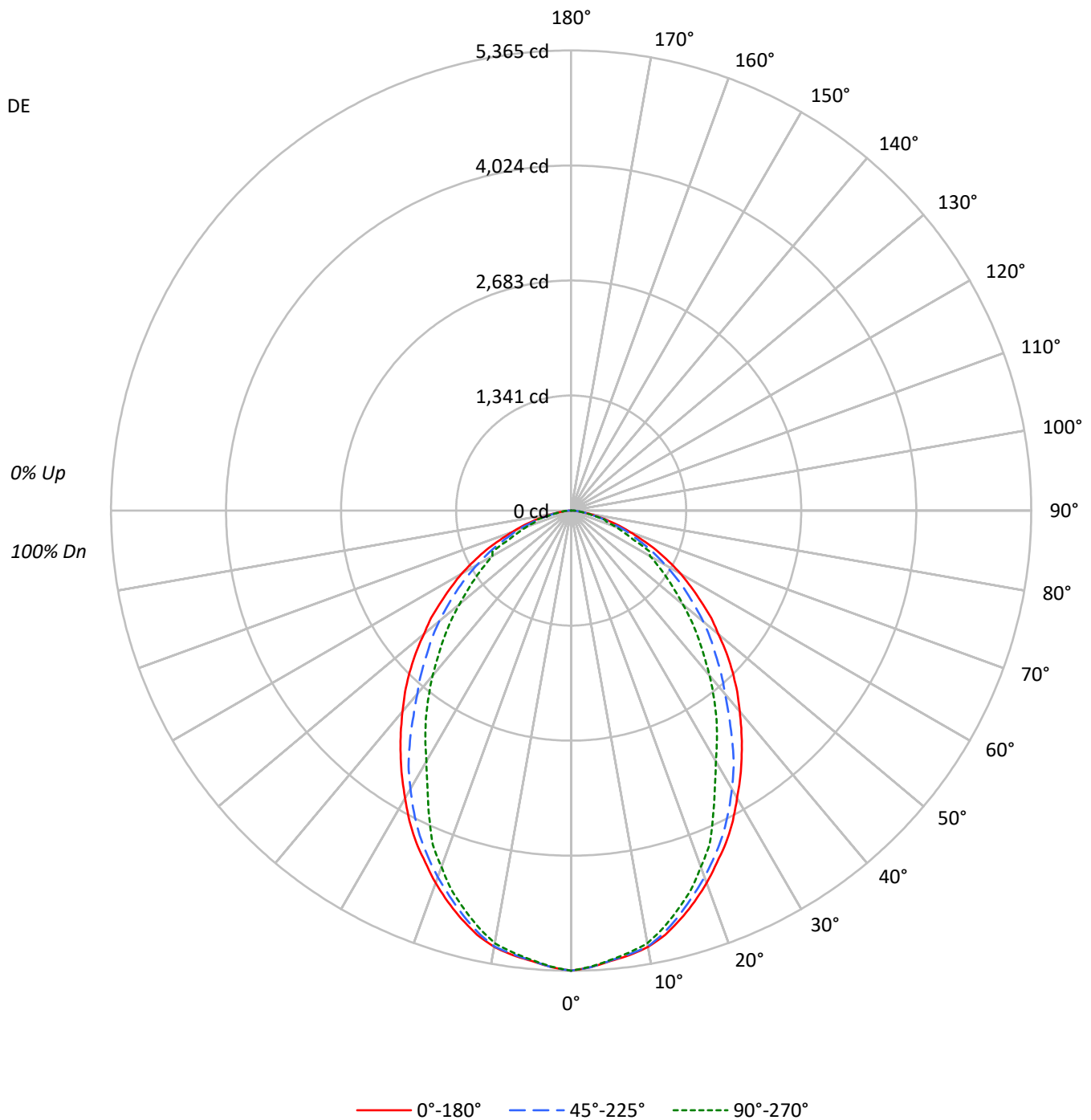
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7218	7218	7218
5°	7120	7112	7103
10°	7059	7050	6999
15°	6868	6799	6704
20°	6616	6509	6332
25°	6344	6206	5819
30°	6013	5820	5242
35°	5695	5379	4849
40°	5371	4902	4412
45°	5063	4532	3989
50°	4687	4206	3557
55°	4335	3812	3186
60°	3972	3405	2854
65°	3495	2982	2528
70°	2879	2611	2147
75°	2289	1999	2096
80°	1538	1442	1346
85°	957	1149	1340

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5063 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	499.4	4.7
10°-20°	1370.6	13.0
20°-30°	1897.4	18.0
30°-40°	2023.2	19.2
40°-50°	1845.8	17.5
50°-60°	1446.0	13.7
60°-70°	942.4	8.9
70°-80°	417.5	4.0
80°-90°	89.6	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°	3767.4	35.8
0°-40°	5790.6	55.0
0°-60°	9082.4	86.2
0°-90°	10532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5365	5365	5365	5365	5365	
5°	5272	5266	5266	5259	5259	500
15°	4931	4931	4881	4832	4813	1386
25°	4273	4248	4180	4031	3920	1962
35°	3467	3442	3275	3027	2952	2168
45°	2661	2605	2382	2183	2096	2050
55°	1848	1792	1625	1433	1358	1658
65°	1098	1036	936	955	794	1082
75°	440	409	384	366	403	472
85°	62	68	74	81	87	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5364.9	5364.9	5364.9	5364.9	5364.9
2.5°	5327.6	5327.6	5327.6	5321.4	5321.4
5°	5271.8	5265.6	5265.6	5259.4	5259.4
7.5°	5228.4	5222.2	5216.0	5209.8	5197.4
10°	5166.4	5166.4	5160.2	5129.2	5123.0
12.5°	5067.2	5061.0	5036.1	4992.7	4980.3
15°	4930.7	4930.7	4881.1	4831.5	4812.9
17.5°	4781.9	4775.7	4713.6	4664.0	4639.2
20°	4620.6	4608.2	4546.2	4465.5	4422.1
22.5°	4440.7	4440.7	4366.3	4260.9	4217.5
25°	4273.3	4248.5	4180.2	4031.4	3919.8
27.5°	4081.0	4043.8	3969.4	3758.5	3628.3
30°	3870.1	3851.5	3746.1	3473.2	3374.0
32.5°	3671.7	3640.7	3529.0	3243.7	3163.1
35°	3467.0	3442.2	3274.7	3026.6	2952.2
37.5°	3262.3	3231.3	3020.4	2822.0	2728.9
40°	3057.7	3020.4	2791.0	2611.1	2511.9
42.5°	2865.4	2815.8	2592.5	2400.2	2288.6
45°	2660.7	2604.9	2381.6	2183.2	2096.3
47.5°	2456.1	2406.4	2201.8	1997.1	1897.9
50°	2239.0	2195.6	2009.5	1804.8	1699.4
52.5°	2059.1	1990.9	1811.0	1606.4	1519.5
55°	1848.2	1792.4	1625.0	1432.7	1358.3
57.5°	1656.0	1600.2	1445.1	1265.2	1203.2
60°	1476.1	1395.5	1265.2	1110.2	1060.6
62.5°	1277.6	1215.6	1104.0	973.7	1035.8
65°	1097.8	1035.8	936.5	955.1	793.9
67.5°	899.3	868.3	781.5	694.6	669.8
70°	731.9	694.6	663.6	570.6	545.8
72.5°	583.0	545.8	502.4	452.8	434.2
75°	440.4	409.3	384.5	365.9	403.1
77.5°	303.9	291.5	272.9	254.3	248.1
80°	198.5	192.3	186.1	179.9	173.7
82.5°	117.8	117.8	117.8	117.8	117.8
85°	62.0	68.2	74.4	80.6	86.8
87.5°	37.2	37.2	43.4	49.6	55.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)