

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: P561591

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561591
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-12-4-LD4-2LO-40-UNV-80-87-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

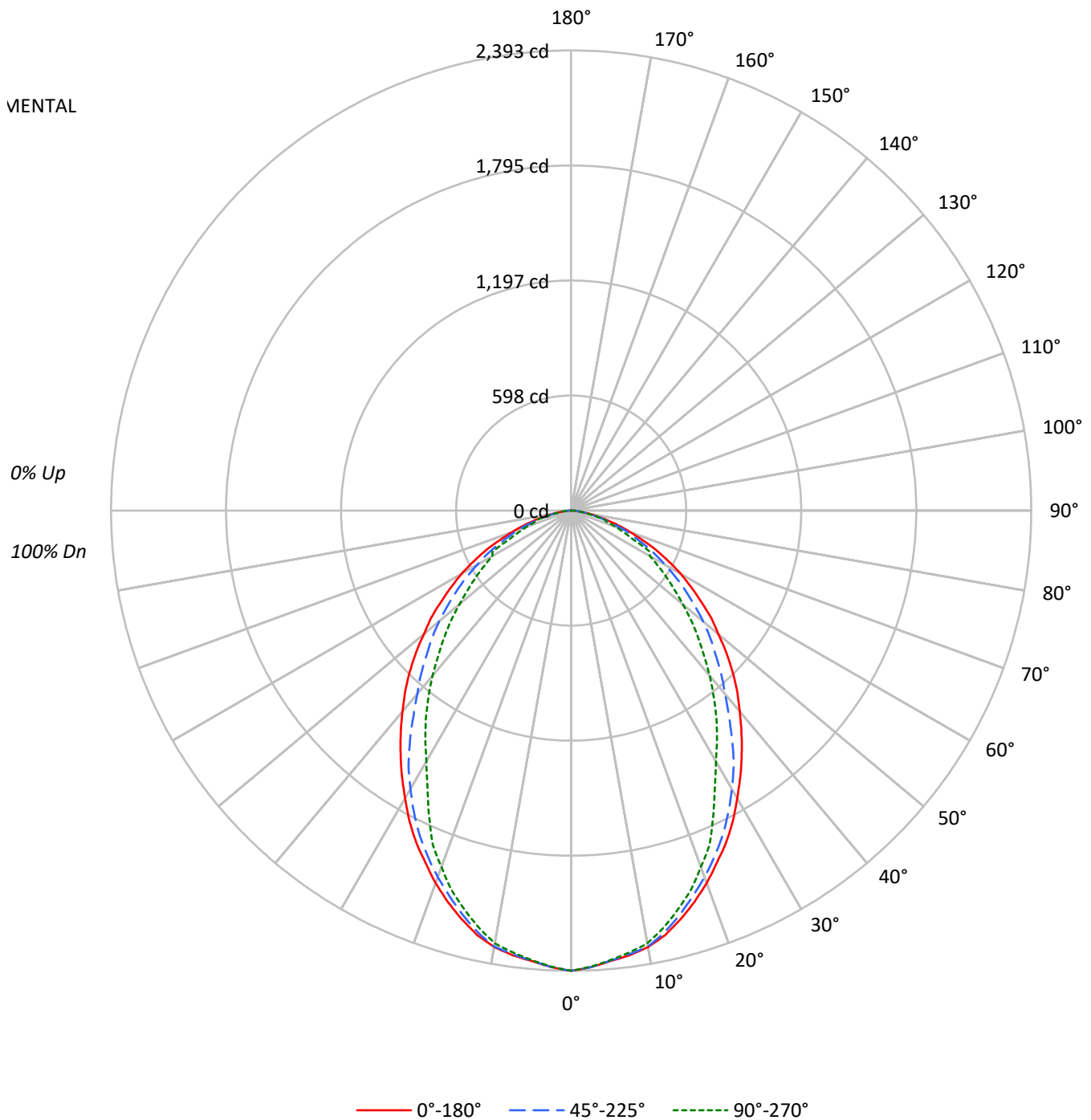
Lumens per Lamp: N/A
Luminaire Lumens: 4698.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6440	6440	6440
5°	6352	6345	6337
10°	6297	6290	6244
15°	6127	6066	5981
20°	5902	5807	5649
25°	5660	5537	5192
30°	5364	5192	4676
35°	5080	4799	4326
40°	4791	4373	3936
45°	4517	4043	3559
50°	4181	3753	3173
55°	3868	3400	2843
60°	3543	3038	2546
65°	3118	2660	2255
70°	2569	2329	1916
75°	2042	1783	1869
80°	1371	1286	1201
85°	855	1025	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4517 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.8	4.7
10°-20°	611.4	13.0
20°-30°	846.4	18.0
30°-40°	902.5	19.2
40°-50°	823.3	17.5
50°-60°	645.0	13.7
60°-70°	420.4	8.9
70°-80°	186.3	4.0
80°-90°	40.0	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°	1680.5	35.8
0°-40°	2583.0	55.0
0°-60°	4051.4	86.2
0°-90°	4698.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4698.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2393	2393	2393	2393	2393	
5°	2352	2349	2349	2346	2346	223
15°	2199	2199	2177	2155	2147	618
25°	1906	1895	1865	1798	1748	875
35°	1546	1536	1461	1350	1317	967
45°	1187	1162	1062	974	935	914
55°	824	800	725	639	606	739
65°	490	462	418	426	354	483
75°	196	183	172	163	180	211
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2393.1	2393.1	2393.1	2393.1	2393.1
2.5°	2376.5	2376.5	2376.5	2373.7	2373.7
5°	2351.6	2348.8	2348.8	2346.1	2346.1
7.5°	2332.2	2329.5	2326.7	2323.9	2318.4
10°	2304.6	2304.6	2301.8	2288.0	2285.2
12.5°	2260.3	2257.5	2246.5	2227.1	2221.6
15°	2199.4	2199.4	2177.3	2155.2	2146.9
17.5°	2133.0	2130.3	2102.6	2080.5	2069.4
20°	2061.1	2055.6	2027.9	1991.9	1972.6
22.5°	1980.9	1980.9	1947.7	1900.6	1881.3
25°	1906.2	1895.1	1864.7	1798.3	1748.5
27.5°	1820.4	1803.8	1770.6	1676.6	1618.5
30°	1726.4	1718.1	1671.0	1549.3	1505.0
32.5°	1637.8	1624.0	1574.2	1446.9	1411.0
35°	1546.5	1535.5	1460.8	1350.1	1316.9
37.5°	1455.2	1441.4	1347.3	1258.8	1217.3
40°	1363.9	1347.3	1245.0	1164.7	1120.5
42.5°	1278.2	1256.0	1156.4	1070.7	1020.9
45°	1186.9	1162.0	1062.4	973.8	935.1
47.5°	1095.6	1073.4	982.1	890.8	846.6
50°	998.7	979.4	896.4	805.1	758.0
52.5°	918.5	888.1	807.8	716.5	677.8
55°	824.4	799.5	724.8	639.1	605.9
57.5°	738.7	713.8	644.6	564.4	536.7
60°	658.4	622.5	564.4	495.2	473.1
62.5°	569.9	542.3	492.5	434.4	462.0
65°	489.7	462.0	417.8	426.1	354.1
67.5°	401.2	387.3	348.6	309.9	298.8
70°	326.5	309.9	296.0	254.5	243.5
72.5°	260.1	243.5	224.1	202.0	193.7
75°	196.4	182.6	171.5	163.2	179.8
77.5°	135.6	130.0	121.7	113.4	110.7
80°	88.5	85.8	83.0	80.2	77.5
82.5°	52.6	52.6	52.6	52.6	52.6
85°	27.7	30.4	33.2	36.0	38.7
87.5°	16.6	16.6	19.4	22.1	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)