

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: P590194

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590194
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-40-UNV-93-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4855.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

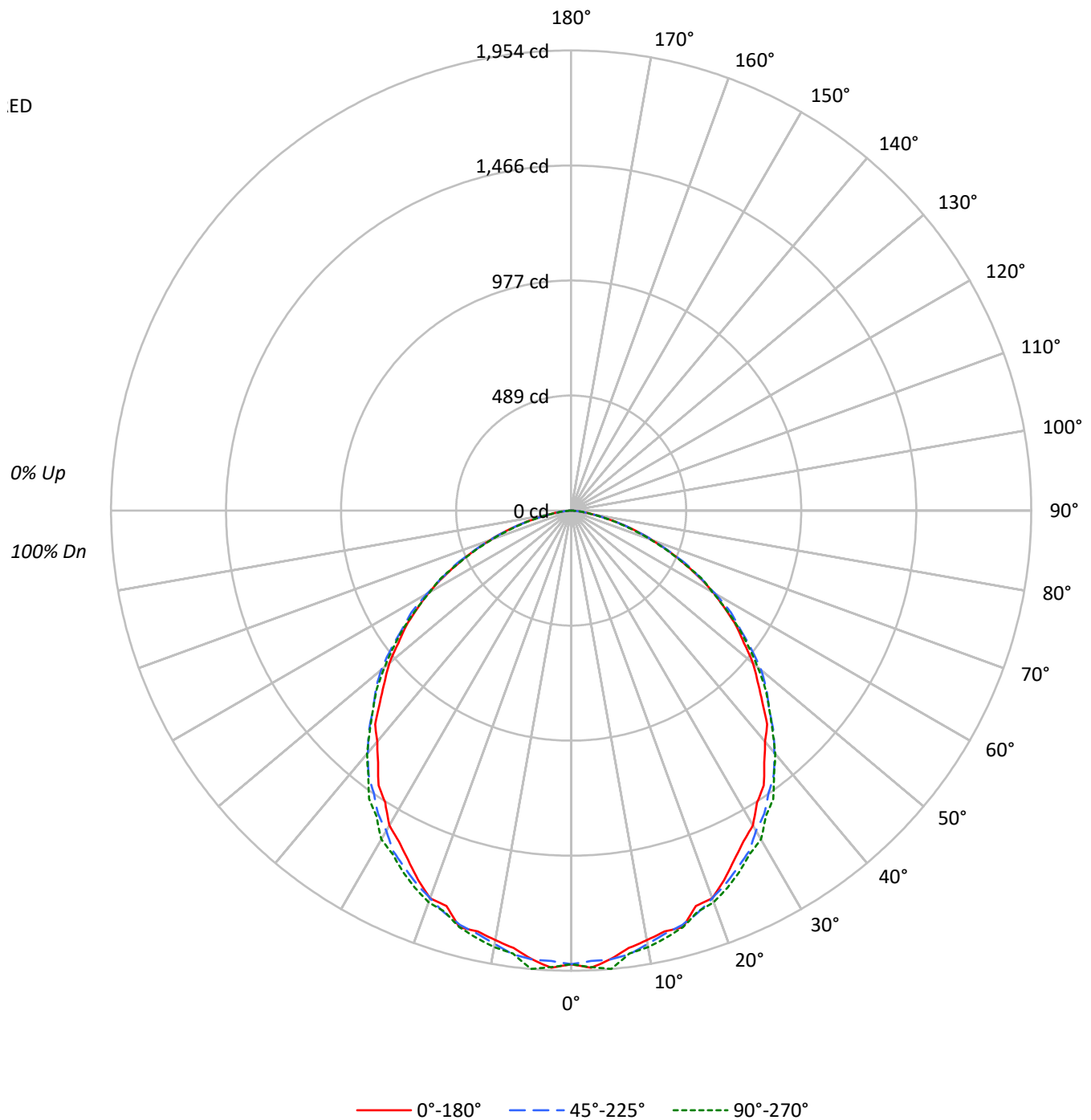
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5184	5184	5184
5°	5167	5169	5277
10°	5062	5106	5142
15°	5102	5074	5103
20°	5016	5016	5069
25°	4861	4968	5022
30°	4795	4879	5009
35°	4682	4804	4912
40°	4500	4716	4737
45°	4364	4519	4525
50°	4220	4411	4326
55°	4021	4100	4070
60°	3760	3798	3729
65°	3352	3438	3329
70°	2877	2887	2806
75°	2278	2273	2185
80°	1526	1485	1426
85°	831	821	769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4635 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.2	3.7
10°-20°	513.5	10.6
20°-30°	769.4	15.8
30°-40°	911.9	18.8
40°-50°	913.6	18.8
50°-60°	775.5	16.0
60°-70°	522.8	10.8
70°-80°	229.7	4.7
80°-90°	37.3	0.8
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°	1464.1	30.2
0°-40°	2376.0	48.9
0°-60°	4065.1	83.7
0°-90°	4855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1926	1926	1926	1926	1926	
5°	1913	1908	1913	1908	1954	180
15°	1831	1810	1821	1831	1832	510
25°	1637	1646	1673	1695	1692	757
35°	1425	1429	1462	1496	1495	885
45°	1147	1168	1187	1218	1189	887
55°	857	851	874	868	868	762
65°	526	520	540	519	523	524
75°	219	215	219	203	210	235
85°	27	26	27	26	25	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1926.3	1926.3	1926.3	1926.3	1926.3
2.5°	1943.0	1928.3	1914.7	1930.6	1940.3
5°	1912.7	1908.2	1913.4	1907.7	1953.7
7.5°	1873.4	1890.5	1900.5	1894.3	1897.0
10°	1852.5	1846.5	1868.6	1884.1	1881.8
12.5°	1830.1	1839.0	1840.3	1856.9	1858.4
15°	1831.3	1810.2	1821.4	1830.8	1831.6
17.5°	1760.2	1783.1	1790.8	1812.4	1785.6
20°	1751.5	1734.8	1751.5	1773.6	1770.1
22.5°	1698.0	1679.4	1715.2	1734.8	1733.6
25°	1637.3	1646.3	1673.1	1695.0	1691.5
27.5°	1584.1	1594.5	1632.9	1662.9	1643.5
30°	1543.1	1537.8	1570.2	1597.0	1612.0
32.5°	1469.7	1488.6	1526.4	1553.0	1538.8
35°	1425.2	1429.4	1462.5	1496.3	1495.3
37.5°	1347.3	1367.0	1413.5	1422.9	1414.2
40°	1280.9	1300.6	1342.6	1352.8	1348.6
42.5°	1231.9	1235.4	1271.5	1283.1	1264.5
45°	1146.6	1168.0	1187.4	1218.0	1189.1
47.5°	1074.0	1083.9	1125.7	1133.9	1118.7
50°	1008.1	1011.5	1053.6	1043.4	1033.4
52.5°	925.2	939.9	963.5	961.6	949.9
55°	857.1	851.4	873.8	867.8	867.5
57.5°	775.3	785.2	803.6	794.2	779.0
60°	698.7	698.9	705.6	694.9	692.9
62.5°	613.3	616.3	617.8	604.6	626.0
65°	526.5	519.6	540.0	519.3	522.8
67.5°	446.7	450.2	448.2	435.3	440.2
70°	365.6	370.1	366.9	352.2	356.7
72.5°	291.5	286.0	289.5	271.1	279.6
75°	219.1	214.6	218.6	203.2	210.2
77.5°	149.2	152.7	150.2	142.0	146.7
80°	98.5	95.8	95.8	91.0	92.0
82.5°	57.5	54.7	54.0	52.5	54.7
85°	26.9	26.1	26.6	25.9	24.9
87.5°	9.7	9.9	9.9	9.5	9.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)