

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P489159

Luminaire Tested: **CLM-24-2-INS-A19156-LD4-4LO-30-120-EDD**

Issue Date: 3/11/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P489159  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2101-115-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/11/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: CLM-24-2-INS-A19156-LD4-4LO-30-120-EDD  
Description: 2X2 CLM LED LUMINAIRE WITH A19156 LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

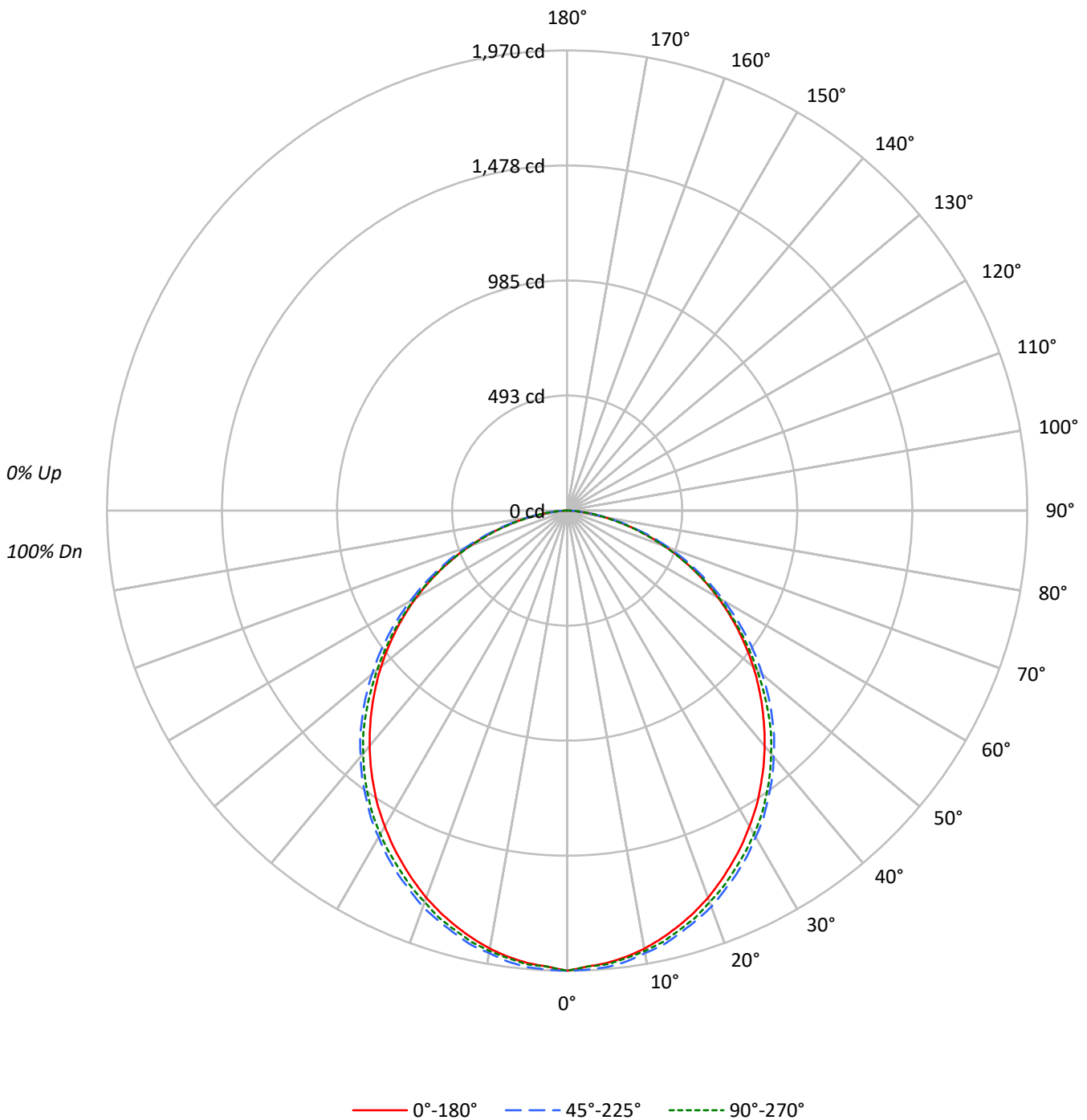
Lumens per Lamp: N/A  
Luminaire Lumens: 5178.5 lumens  
Efficiency: N/A  
Efficacy: 110.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.21 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
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: 25 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	102	98	95	98	95	92	94	92	89	91	88	87	85
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	48	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	44	38	64	51	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5300	5300	5300
5°	5252	5301	5268
10°	5203	5256	5231
15°	5131	5214	5178
20°	5051	5170	5108
25°	4952	5096	5037
30°	4852	5017	4971
35°	4743	4931	4885
40°	4620	4832	4771
45°	4490	4716	4627
50°	4355	4565	4446
55°	4197	4393	4259
60°	4018	4185	4056
65°	3787	3932	3789
70°	3485	3625	3445
75°	3068	3206	3021
80°	2493	2602	2464
85°	1735	1849	1806



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.5	3.6
10°-20°	525.7	10.2
20°-30°	784.0	15.1
30°-40°	929.1	17.9
40°-50°	940.1	18.2
50°-60°	821.0	15.9
60°-70°	600.0	11.6
70°-80°	319.2	6.2
80°-90°	73.8	1.4
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°	1495.2	28.9
0°-40°	2424.3	46.8
0°-60°	4185.5	80.8
0°-90°	5178.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5178.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1970	1970	1970	1970	1970	
5°	1944	1948	1962	1967	1950	184
15°	1842	1854	1872	1883	1858	519
25°	1668	1688	1716	1723	1697	768
35°	1444	1466	1501	1512	1487	903
45°	1180	1201	1239	1240	1216	910
55°	895	913	936	923	908	800
65°	595	607	618	605	595	589
75°	295	302	308	297	291	314
85°	56	57	60	60	58	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1969.7	1969.7	1969.7	1969.7	1969.7
2.5°	1954.3	1960.7	1967.3	1970.1	1954.1
5°	1944.1	1947.8	1962.3	1966.8	1950.2
7.5°	1927.2	1932.8	1946.9	1949.0	1933.0
10°	1904.3	1914.1	1923.5	1933.8	1914.3
12.5°	1874.9	1888.2	1904.3	1906.1	1891.3
15°	1841.9	1854.2	1871.6	1882.9	1858.5
17.5°	1804.9	1816.8	1839.4	1841.5	1826.7
20°	1763.7	1778.5	1805.5	1810.3	1783.8
22.5°	1716.9	1736.8	1759.4	1763.9	1744.4
25°	1667.8	1688.4	1716.3	1722.6	1696.6
27.5°	1616.5	1636.2	1667.6	1672.1	1650.2
30°	1561.5	1580.0	1614.5	1622.1	1599.7
32.5°	1505.7	1524.2	1562.4	1568.7	1547.0
35°	1443.7	1466.3	1501.0	1511.5	1487.0
37.5°	1380.5	1402.5	1441.9	1451.3	1425.1
40°	1315.1	1336.8	1375.6	1383.4	1358.2
42.5°	1248.2	1269.9	1311.4	1312.6	1291.7
45°	1179.8	1200.8	1239.3	1240.4	1215.9
47.5°	1110.5	1131.6	1166.1	1162.2	1139.2
50°	1040.3	1060.4	1090.5	1082.7	1062.0
52.5°	967.6	987.1	1015.6	1002.9	983.4
55°	894.6	912.6	936.4	922.9	907.7
57.5°	820.9	839.2	857.4	843.7	830.5
60°	746.6	762.6	777.6	763.6	753.6
62.5°	671.1	684.8	697.8	684.4	675.0
65°	594.7	606.8	617.5	605.2	595.1
67.5°	518.8	529.1	538.9	526.2	515.7
70°	442.9	451.7	460.7	447.6	437.9
72.5°	368.0	375.8	383.8	371.0	362.6
75°	295.1	301.9	308.4	297.2	290.6
77.5°	225.5	231.3	235.8	228.6	222.3
80°	160.9	165.2	167.9	165.0	159.0
82.5°	103.4	106.5	107.9	107.7	103.8
85°	56.2	57.3	59.9	60.5	58.5
87.5°	21.8	23.2	23.8	25.7	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)