

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: P310882

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CP187-W2A-U-5000K**

Issue Date: 3/3/2020

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: P310882
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50HE-UNV-L82765-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4427.0 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

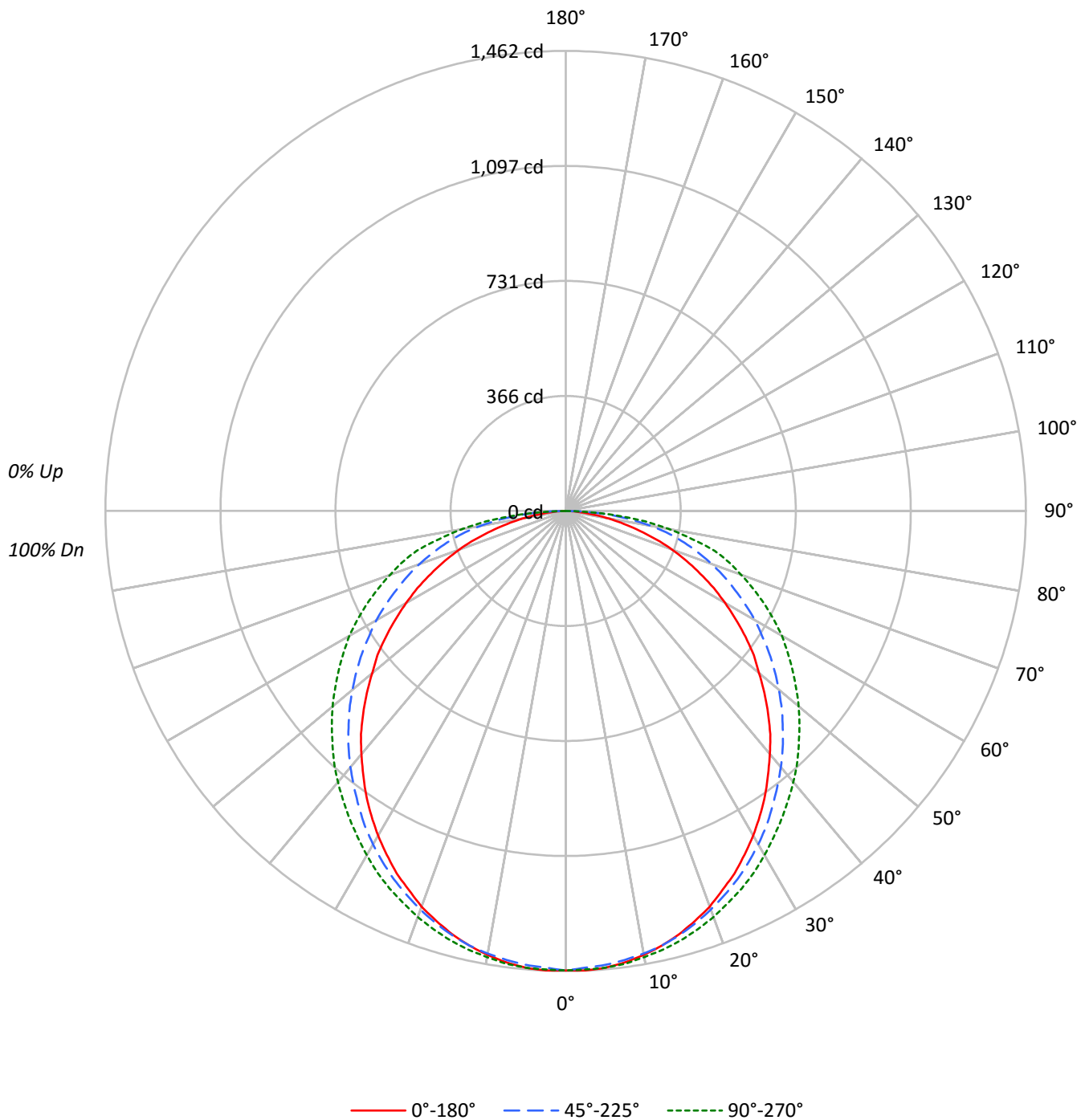
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82		
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67		
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56		
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47		
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41		
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36		
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31		
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28		
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25		
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1964	1964	1964
5°	1968	1956	1968
10°	1957	1951	1967
15°	1940	1944	1968
20°	1916	1931	1966
25°	1886	1917	1965
30°	1851	1901	1963
35°	1814	1882	1964
40°	1772	1868	1976
45°	1730	1856	1993
50°	1679	1851	2023
55°	1637	1854	2064
60°	1573	1869	2134
65°	1501	1889	2212
70°	1421	1947	2334
75°	1267	2031	2550
80°	1081	2151	2607
85°	770	2132	2495



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	3.1
10°-20°	395.1	8.9
20°-30°	596.7	13.5
30°-40°	719.2	16.2
40°-50°	755.0	17.1
50°-60°	706.4	16.0
60°-70°	583.3	13.2
70°-80°	397.5	9.0
80°-90°	135.6	3.1
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°	1130.0	25.5
0°-40°	1849.2	41.8
0°-60°	3310.6	74.8
0°-90°	4427.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4427.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1460	1460	1460	1460	1460	
5°	1457	1456	1448	1457	1457	138
15°	1392	1394	1395	1410	1413	393
25°	1270	1276	1291	1316	1323	585
35°	1104	1116	1146	1184	1196	690
45°	909	928	975	1028	1047	701
55°	698	726	790	855	880	623
65°	472	511	593	668	695	468
75°	244	300	391	464	491	260
85°	50	98	138	156	162	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1460.0	1460.0	1460.0	1460.0	1460.0
2.5°	1461.5	1460.0	1452.6	1460.0	1458.5
5°	1457.0	1455.6	1448.2	1457.0	1457.0
7.5°	1446.8	1446.8	1439.4	1449.7	1451.2
10°	1432.1	1432.1	1427.7	1439.4	1439.4
12.5°	1414.5	1414.5	1414.5	1426.2	1427.7
15°	1392.4	1393.9	1395.4	1410.0	1413.0
17.5°	1366.0	1368.9	1373.3	1391.0	1393.9
20°	1338.1	1341.0	1348.4	1368.9	1373.3
22.5°	1302.8	1310.2	1320.5	1344.0	1348.4
25°	1270.5	1276.4	1291.1	1316.0	1323.4
27.5°	1230.9	1239.7	1258.8	1285.2	1295.5
30°	1191.2	1200.0	1223.5	1254.4	1263.2
32.5°	1148.6	1161.8	1186.8	1219.1	1229.4
35°	1104.5	1116.3	1145.7	1183.9	1195.6
37.5°	1056.1	1072.2	1104.5	1145.7	1160.4
40°	1009.1	1026.7	1063.4	1107.5	1125.1
42.5°	962.1	979.7	1020.8	1070.8	1088.4
45°	909.2	928.3	975.3	1028.2	1047.3
47.5°	856.3	879.8	931.2	987.0	1007.6
50°	802.0	828.4	884.2	943.0	966.5
52.5°	753.5	778.5	837.2	900.4	922.4
55°	697.7	725.6	790.2	854.8	879.8
57.5°	640.4	671.2	740.3	810.8	835.7
60°	584.6	618.4	694.7	765.2	793.2
62.5°	530.2	564.0	643.3	716.8	744.7
65°	471.5	511.1	593.4	668.3	694.7
67.5°	415.7	458.3	544.9	618.4	644.8
70°	361.3	402.5	495.0	567.0	593.4
72.5°	302.6	349.6	442.1	517.0	544.9
75°	243.8	299.6	390.7	464.1	490.6
77.5°	189.5	246.8	337.8	398.0	411.3
80°	139.5	198.3	277.6	320.2	336.4
82.5°	89.6	148.3	211.5	242.4	255.6
85°	49.9	98.4	138.1	155.7	161.6
87.5°	20.6	42.6	55.8	63.2	63.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)