

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: P309752

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-2700K**

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: P309752  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 2700K 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**

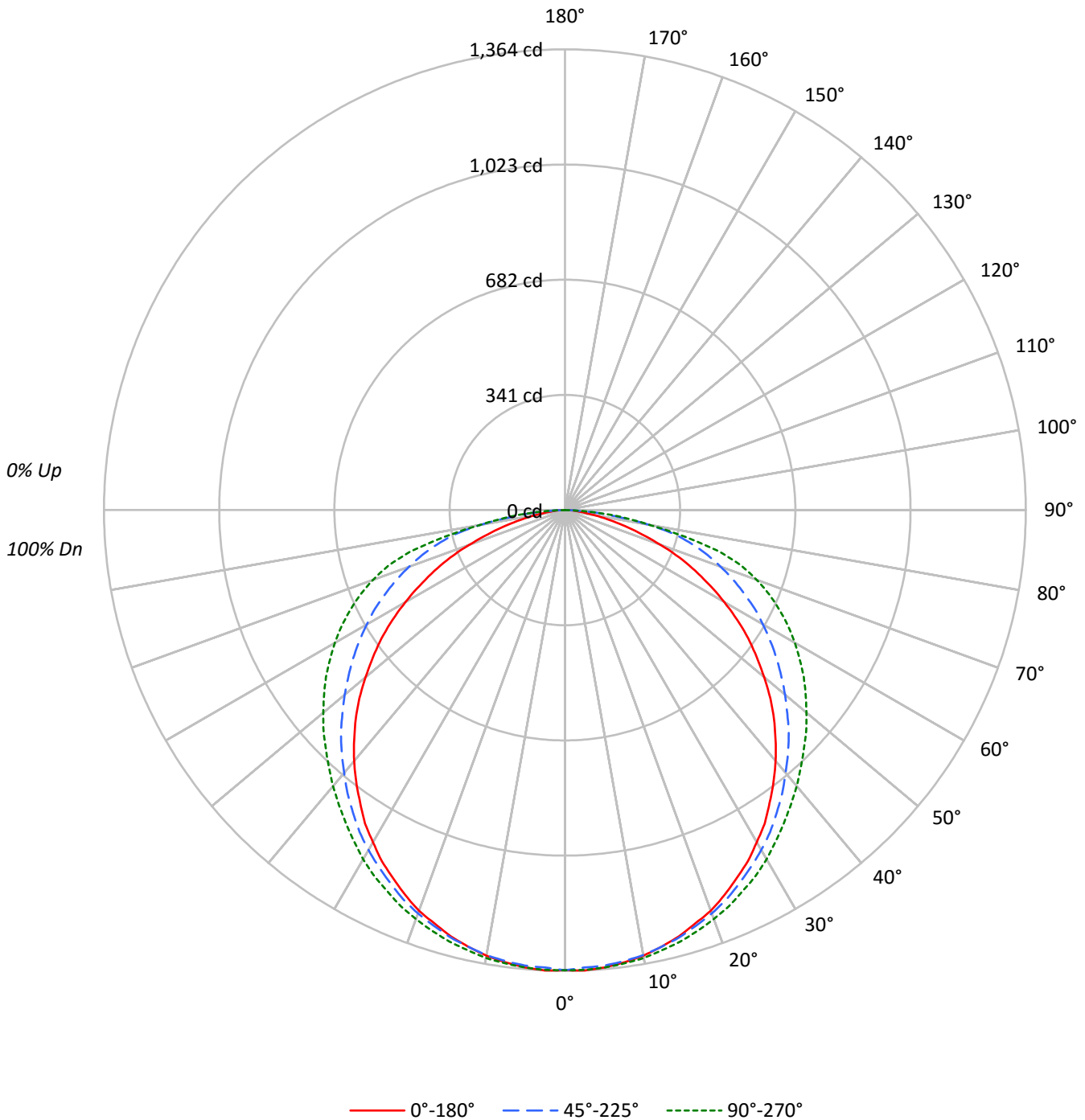
Lumens per Lamp: N/A  
Luminaire Lumens: 4199.0 lumens  
Efficiency: N/A  
Efficacy: 72.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 57.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	1833	1833	1833
5°	1835	1828	1835
10°	1830	1828	1840
15°	1819	1824	1841
20°	1807	1820	1845
25°	1785	1811	1848
30°	1764	1805	1854
35°	1735	1796	1857
40°	1704	1785	1874
45°	1666	1783	1903
50°	1612	1781	1954
55°	1555	1794	2025
60°	1466	1821	2115
65°	1354	1864	2233
70°	1183	1930	2379
75°	960	2029	2458
80°	708	1989	1989
85°	543	1465	1655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.1	3.1
10°-20°	370.6	8.8
20°-30°	564.2	13.4
30°-40°	685.1	16.3
40°-50°	723.8	17.2
50°-60°	683.0	16.3
60°-70°	567.9	13.5
70°-80°	373.6	8.9
80°-90°	101.8	2.4
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°	1063.9	25.3
0°-40°	1748.9	41.7
0°-60°	3155.7	75.2
0°-90°	4199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4199.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1362	1362	1362	1362	1362	
5°	1359	1359	1354	1359	1359	129
15°	1306	1308	1310	1322	1322	368
25°	1202	1209	1220	1241	1245	555
35°	1056	1069	1093	1122	1130	661
45°	875	893	937	983	1000	674
55°	663	691	765	837	863	590
65°	425	475	585	672	701	421
75°	185	269	390	462	473	199
85°	35	77	95	106	107	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1362.4	1362.4	1362.4	1362.4	1362.4
2.5°	1364.1	1362.4	1355.3	1362.4	1362.4
5°	1358.9	1358.9	1353.6	1358.9	1358.9
7.5°	1350.1	1350.1	1346.5	1353.6	1353.6
10°	1339.5	1339.5	1337.8	1346.5	1346.5
12.5°	1323.7	1325.5	1323.7	1334.2	1334.2
15°	1306.1	1307.9	1309.6	1321.9	1321.9
17.5°	1283.3	1286.8	1290.3	1304.4	1306.1
20°	1262.2	1263.9	1271.0	1286.8	1288.5
22.5°	1234.0	1239.3	1248.1	1263.9	1269.2
25°	1202.4	1209.4	1220.0	1241.1	1244.6
27.5°	1172.5	1177.8	1191.9	1214.7	1221.7
30°	1135.6	1144.4	1162.0	1184.8	1193.6
32.5°	1100.4	1109.2	1130.3	1154.9	1162.0
35°	1056.5	1068.8	1093.4	1121.5	1130.3
37.5°	1014.3	1026.6	1056.5	1088.1	1098.7
40°	970.4	984.4	1016.1	1053.0	1067.0
42.5°	922.9	942.2	977.4	1017.8	1033.6
45°	875.4	893.0	937.0	982.7	1000.2
47.5°	824.5	845.5	893.0	947.5	968.6
50°	770.0	796.3	850.8	910.6	933.4
52.5°	715.5	745.3	806.9	873.7	898.3
55°	662.7	690.9	764.7	836.8	863.1
57.5°	604.7	639.9	720.7	798.1	824.5
60°	544.9	583.6	676.8	757.7	785.8
62.5°	485.2	529.1	634.6	715.5	745.3
65°	425.4	474.6	585.4	671.5	701.4
67.5°	367.4	421.9	539.7	625.8	655.7
70°	300.6	369.2	490.5	574.8	604.7
72.5°	239.1	318.2	443.0	522.1	548.5
75°	184.6	269.0	390.3	462.3	472.9
77.5°	135.4	219.7	335.8	360.4	362.1
80°	91.4	175.8	256.7	253.1	256.7
82.5°	59.8	131.8	161.7	181.1	182.8
85°	35.2	77.3	94.9	105.5	107.2
87.5°	17.6	26.4	33.4	35.2	38.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)