

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: P313907

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP187-W2A-U-4000K**

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: P313907  
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: 24FCZ2-40HE-UNV-L83050-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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**

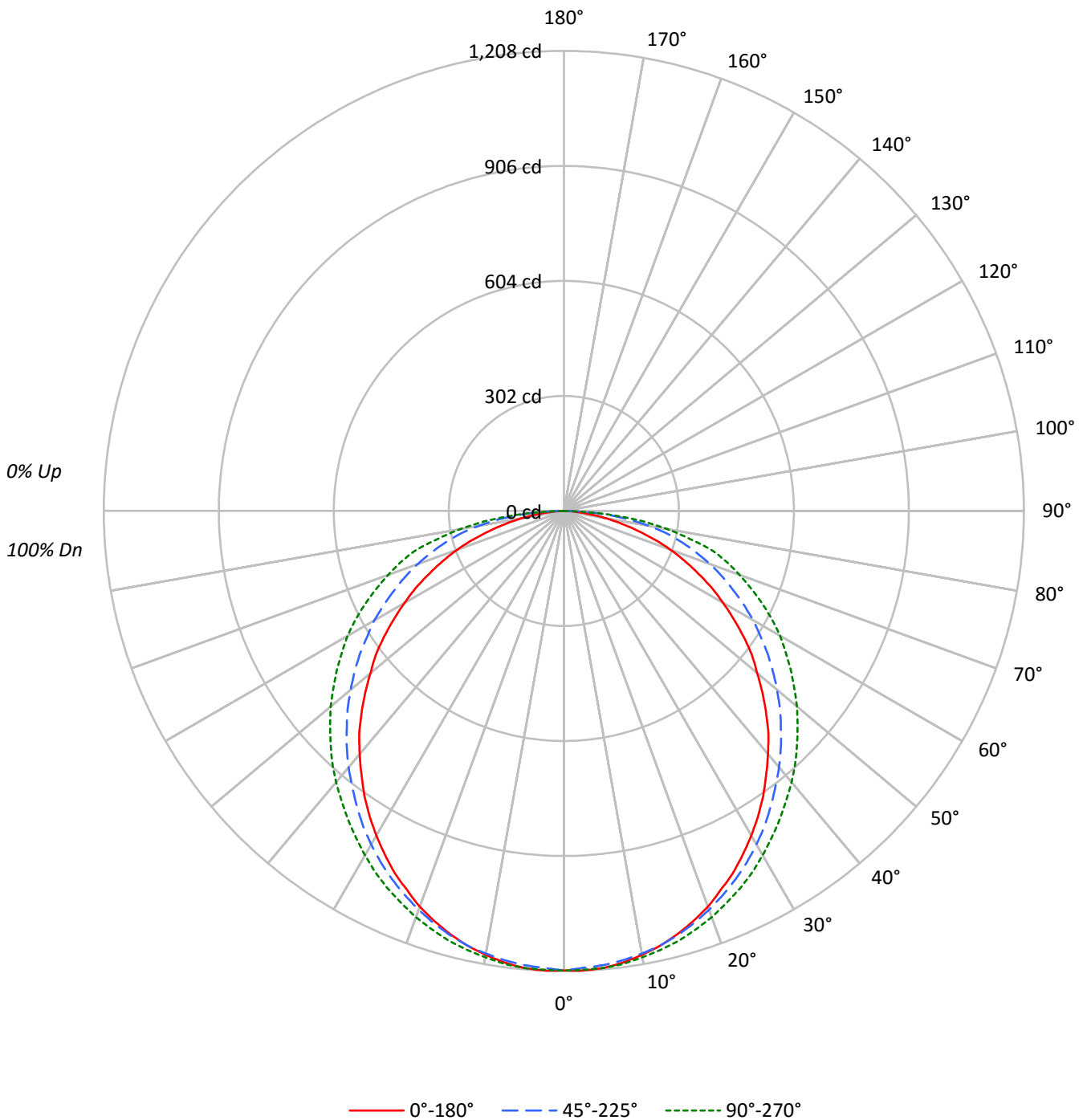
Lumens per Lamp: N/A  
Luminaire Lumens: 3659.0 lumens  
Efficiency: N/A  
Efficacy: 117.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	1624	1624	1624
5°	1627	1617	1627
10°	1617	1612	1625
15°	1603	1606	1627
20°	1583	1596	1625
25°	1559	1584	1624
30°	1530	1571	1622
35°	1499	1555	1623
40°	1465	1544	1633
45°	1430	1534	1647
50°	1387	1530	1672
55°	1353	1532	1706
60°	1300	1545	1764
65°	1241	1562	1828
70°	1175	1609	1930
75°	1048	1679	2108
80°	893	1777	2154
85°	638	1761	2061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.2	3.1
10°-20°	326.5	8.9
20°-30°	493.2	13.5
30°-40°	594.4	16.2
40°-50°	624.1	17.1
50°-60°	583.8	16.0
60°-70°	482.2	13.2
70°-80°	328.5	9.0
80°-90°	112.0	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°	934.0	25.5
0°-40°	1528.4	41.8
0°-60°	2736.3	74.8
0°-90°	3659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3659.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1207	1207	1207	1207	1207	
5°	1204	1203	1197	1204	1204	114
15°	1151	1152	1153	1165	1168	324
25°	1050	1055	1067	1088	1094	483
35°	913	923	947	978	988	570
45°	752	767	806	850	866	580
55°	577	600	653	706	727	515
65°	390	422	490	552	574	387
75°	202	248	323	384	406	215
85°	41	81	114	129	134	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1206.7	1206.7	1206.7	1206.7	1206.7
2.5°	1207.9	1206.7	1200.6	1206.7	1205.5
5°	1204.3	1203.1	1197.0	1204.3	1204.3
7.5°	1195.8	1195.8	1189.7	1198.2	1199.4
10°	1183.6	1183.6	1180.0	1189.7	1189.7
12.5°	1169.1	1169.1	1169.1	1178.8	1180.0
15°	1150.9	1152.1	1153.3	1165.4	1167.9
17.5°	1129.0	1131.4	1135.1	1149.6	1152.1
20°	1105.9	1108.4	1114.4	1131.4	1135.1
22.5°	1076.8	1082.9	1091.4	1110.8	1114.4
25°	1050.1	1055.0	1067.1	1087.7	1093.8
27.5°	1017.3	1024.6	1040.4	1062.2	1070.7
30°	984.5	991.8	1011.3	1036.7	1044.0
32.5°	949.3	960.3	980.9	1007.6	1016.1
35°	912.9	922.6	946.9	978.5	988.2
37.5°	872.9	886.2	912.9	946.9	959.1
40°	834.0	848.6	878.9	915.3	929.9
42.5°	795.2	809.7	843.7	885.0	899.6
45°	751.5	767.2	806.1	849.8	865.6
47.5°	707.8	727.2	769.7	815.8	832.8
50°	662.8	684.7	730.8	779.4	798.8
52.5°	622.8	643.4	692.0	744.2	762.4
55°	576.6	599.7	653.1	706.5	727.2
57.5°	529.3	554.8	611.9	670.1	690.8
60°	483.2	511.1	574.2	632.5	655.6
62.5°	438.3	466.2	531.7	592.4	615.5
65°	389.7	422.5	490.5	552.4	574.2
67.5°	343.6	378.8	450.4	511.1	532.9
70°	298.6	332.6	409.1	468.6	490.5
72.5°	250.1	288.9	365.4	427.3	450.4
75°	201.5	247.7	322.9	383.6	405.5
77.5°	156.6	204.0	279.2	329.0	339.9
80°	115.3	163.9	229.4	264.6	278.0
82.5°	74.1	122.6	174.8	200.3	211.2
85°	41.3	81.3	114.1	128.7	133.5
87.5°	17.0	35.2	46.1	52.2	52.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)