

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: P313755

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-3000K**

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: P313755
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-L83050-RDP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 3834.0 lumens
Efficiency: N/A
Efficacy: 66.6 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

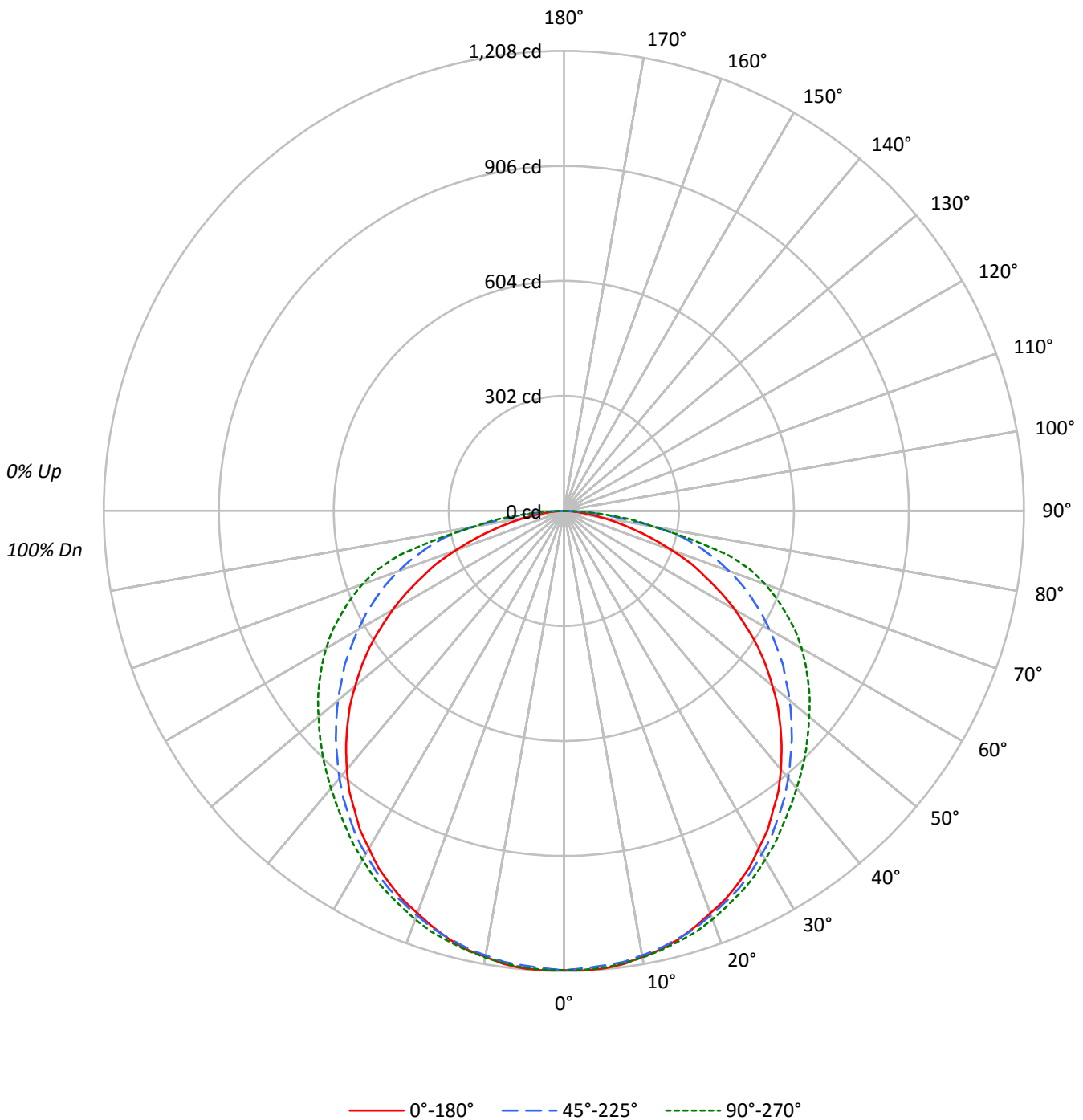
Input Watts (W): 57.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1622	1622	1622
5°	1628	1618	1626
10°	1624	1619	1627
15°	1621	1618	1629
20°	1609	1617	1634
25°	1604	1621	1637
30°	1590	1616	1643
35°	1574	1612	1649
40°	1557	1610	1670
45°	1531	1610	1708
50°	1497	1620	1760
55°	1459	1646	1838
60°	1397	1679	1939
65°	1308	1738	2059
70°	1190	1818	2214
75°	1009	1918	2313
80°	796	1930	1871
85°	587	1468	1644



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.4	3.0
10°-20°	329.2	8.6
20°-30°	503.4	13.1
30°-40°	615.3	16.0
40°-50°	655.8	17.1
50°-60°	627.1	16.4
60°-70°	531.2	13.9
70°-80°	357.0	9.3
80°-90°	100.7	2.6
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°	946.9	24.7
0°-40°	1562.2	40.7
0°-60°	2845.1	74.2
0°-90°	3834.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3834.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1206	1206	1206	1206	1206	
5°	1206	1204	1198	1204	1204	115
15°	1164	1164	1162	1172	1170	328
25°	1080	1084	1092	1101	1103	498
35°	958	966	981	1000	1004	600
45°	804	818	846	882	898	620
55°	622	645	702	757	784	554
65°	411	453	546	618	647	408
75°	194	264	369	432	445	208
85°	38	78	95	103	106	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1205.7	1205.7	1205.7	1205.7	1205.7
2.5°	1207.6	1207.6	1201.9	1205.7	1205.7
5°	1205.7	1203.8	1198.1	1203.8	1203.8
7.5°	1200.0	1198.1	1194.3	1200.0	1198.1
10°	1188.6	1188.6	1184.8	1190.5	1190.5
12.5°	1179.1	1177.2	1175.3	1182.9	1181.0
15°	1163.8	1163.8	1161.9	1171.5	1169.6
17.5°	1144.8	1146.7	1148.6	1156.2	1158.1
20°	1123.9	1127.7	1129.6	1141.0	1141.0
22.5°	1104.9	1106.8	1110.6	1122.0	1122.0
25°	1080.2	1084.0	1091.6	1101.1	1103.0
27.5°	1055.4	1057.4	1066.9	1080.2	1082.1
30°	1023.1	1028.8	1040.2	1055.4	1057.4
32.5°	994.6	1000.3	1013.6	1028.8	1032.6
35°	958.5	966.1	981.3	1000.3	1004.1
37.5°	926.1	931.8	950.9	971.8	977.5
40°	886.2	897.6	916.6	941.3	950.9
42.5°	846.3	857.7	880.5	912.8	924.2
45°	804.4	817.7	846.3	882.4	897.6
47.5°	762.6	777.8	810.1	852.0	869.1
50°	715.0	734.1	774.0	821.5	840.6
52.5°	669.4	692.2	736.0	789.2	813.9
55°	621.9	644.7	701.7	756.9	783.5
57.5°	568.6	599.0	661.8	724.6	753.1
60°	519.2	547.7	623.8	692.2	720.7
62.5°	465.9	504.0	585.7	658.0	686.5
65°	410.8	452.6	545.8	618.1	646.6
67.5°	361.3	407.0	505.9	578.1	606.6
70°	302.4	359.4	462.1	534.4	562.9
72.5°	247.2	310.0	416.5	486.8	513.5
75°	194.0	264.3	368.9	431.7	445.0
77.5°	144.5	218.7	319.5	346.1	336.6
80°	102.7	175.0	249.1	235.8	241.5
82.5°	66.6	133.1	154.0	175.0	180.7
85°	38.0	78.0	95.1	102.7	106.5
87.5°	17.1	28.5	38.0	38.0	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)