

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: P313692

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CA08-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: P313692
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: 24FCZ2-60HE-UNV-L83050-RDP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 3895.0 lumens
Efficiency: N/A
Efficacy: 80.0 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

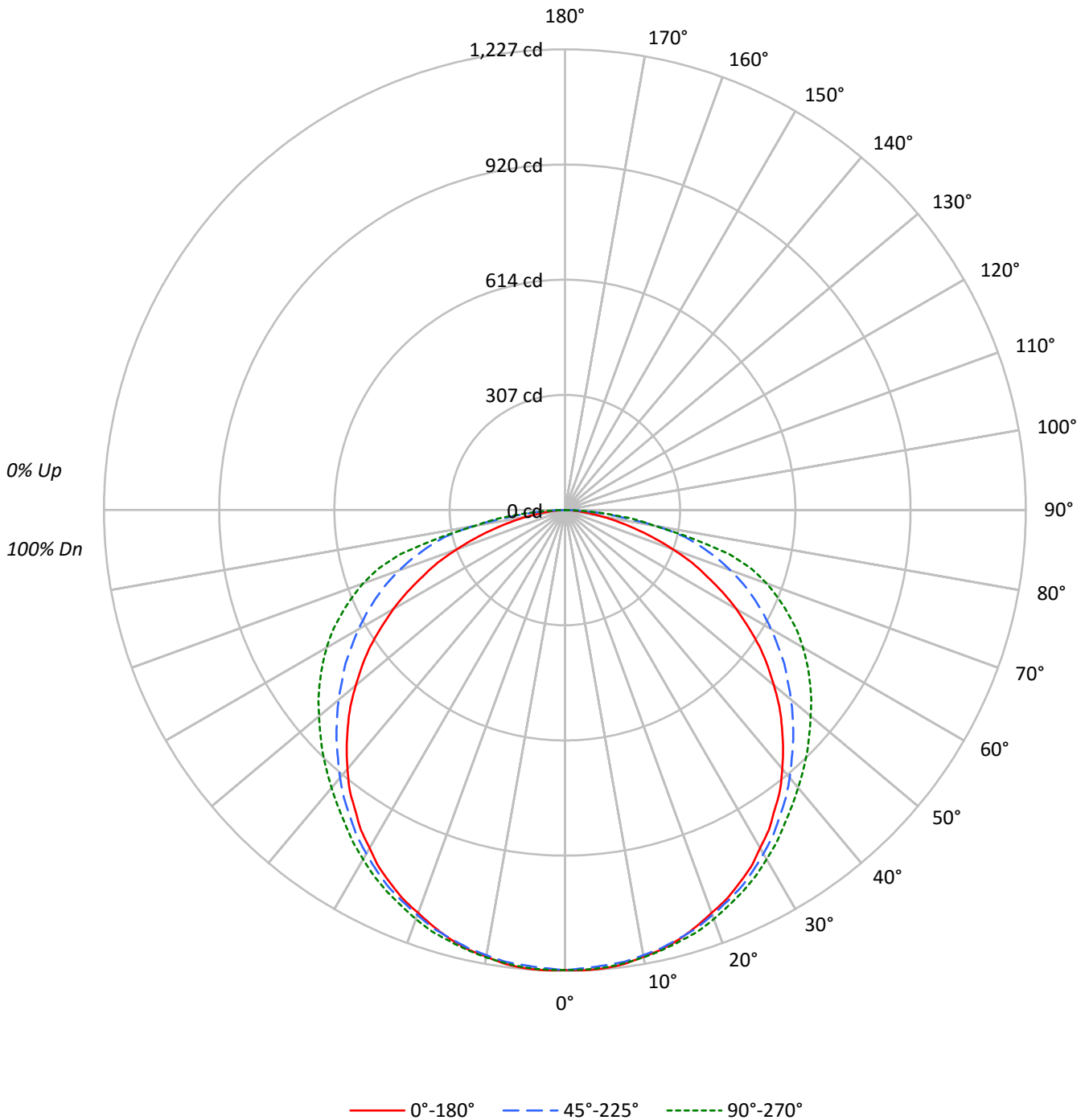
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1648	1648	1648
5°	1654	1644	1652
10°	1650	1644	1652
15°	1647	1644	1655
20°	1635	1643	1660
25°	1629	1646	1663
30°	1615	1642	1669
35°	1599	1637	1676
40°	1581	1636	1697
45°	1555	1636	1735
50°	1521	1646	1787
55°	1482	1672	1867
60°	1419	1705	1970
65°	1329	1765	2091
70°	1209	1847	2250
75°	1025	1948	2350
80°	808	1961	1901
85°	596	1491	1670



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	3.0
10°-20°	334.4	8.6
20°-30°	511.4	13.1
30°-40°	625.1	16.0
40°-50°	666.2	17.1
50°-60°	637.0	16.4
60°-70°	539.6	13.9
70°-80°	362.7	9.3
80°-90°	102.3	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°	961.9	24.7
0°-40°	1587.1	40.7
0°-60°	2890.4	74.2
0°-90°	3895.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3895.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1225	1225	1225	1225	1225	
5°	1225	1223	1217	1223	1223	116
15°	1182	1182	1180	1190	1188	333
25°	1097	1101	1109	1119	1120	506
35°	974	981	997	1016	1020	610
45°	817	831	860	896	912	630
55°	632	655	713	769	796	563
65°	417	460	554	628	657	414
75°	197	268	375	439	452	211
85°	39	79	97	104	108	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1224.9	1224.9	1224.9	1224.9	1224.9
2.5°	1226.8	1226.8	1221.0	1224.9	1224.9
5°	1224.9	1222.9	1217.1	1222.9	1222.9
7.5°	1219.1	1217.1	1213.3	1219.1	1217.1
10°	1207.5	1207.5	1203.6	1209.4	1209.4
12.5°	1197.8	1195.9	1194.0	1201.7	1199.8
15°	1182.4	1182.4	1180.4	1190.1	1188.2
17.5°	1163.0	1165.0	1166.9	1174.6	1176.6
20°	1141.8	1145.7	1147.6	1159.2	1159.2
22.5°	1122.5	1124.4	1128.3	1139.9	1139.9
25°	1097.4	1101.2	1108.9	1118.6	1120.5
27.5°	1072.2	1074.2	1083.8	1097.4	1099.3
30°	1039.4	1045.2	1056.8	1072.2	1074.2
32.5°	1010.4	1016.2	1029.7	1045.2	1049.1
35°	973.7	981.4	996.9	1016.2	1020.1
37.5°	940.9	946.7	966.0	987.2	993.0
40°	900.3	911.9	931.2	956.3	966.0
42.5°	859.7	871.3	894.5	927.3	938.9
45°	817.2	830.7	859.7	896.4	911.9
47.5°	774.7	790.2	823.0	865.5	882.9
50°	726.4	745.7	786.3	834.6	853.9
52.5°	680.1	703.2	747.7	801.8	826.9
55°	631.8	654.9	712.9	768.9	796.0
57.5°	577.7	608.6	672.3	736.1	765.1
60°	527.4	556.4	633.7	703.2	732.2
62.5°	473.3	512.0	595.0	668.5	697.4
65°	417.3	459.8	554.5	627.9	656.9
67.5°	367.1	413.4	513.9	587.3	616.3
70°	307.2	365.1	469.5	542.9	571.9
72.5°	251.2	314.9	423.1	494.6	521.6
75°	197.1	268.5	374.8	438.6	452.1
77.5°	146.8	222.2	324.6	351.6	342.0
80°	104.3	177.7	253.1	239.6	245.4
82.5°	67.6	135.2	156.5	177.7	183.5
85°	38.6	79.2	96.6	104.3	108.2
87.5°	17.4	29.0	38.6	38.6	36.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)