

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: P313330

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-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: P313330
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: 24FCZ2-60HE-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 3788.0 lumens
Efficiency: N/A
Efficacy: 79.7 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

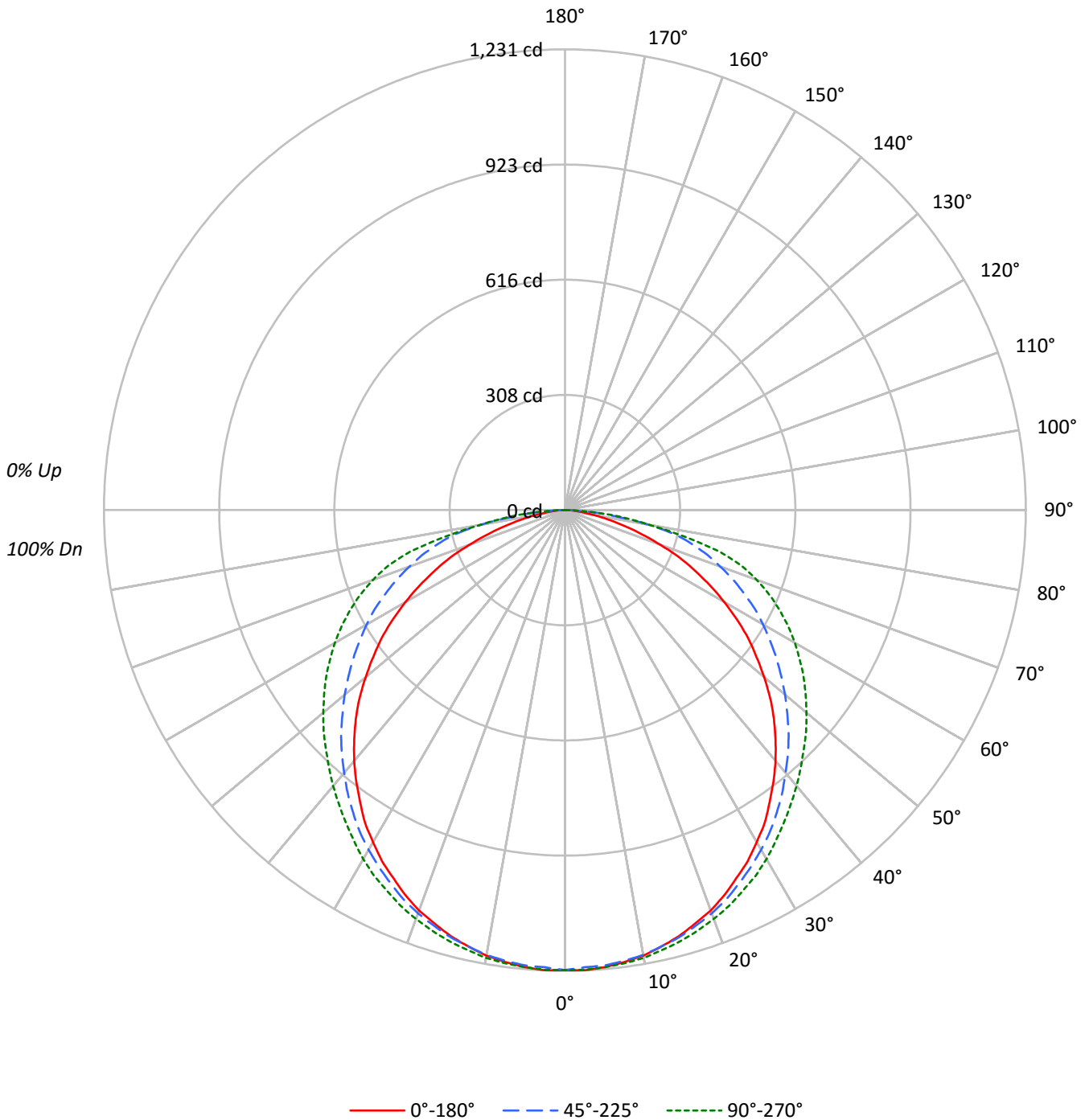
Input Watts (W): 47.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1654	1654	1654
5°	1656	1649	1656
10°	1651	1649	1660
15°	1641	1646	1661
20°	1630	1642	1664
25°	1610	1634	1667
30°	1592	1629	1673
35°	1566	1620	1675
40°	1538	1610	1691
45°	1503	1608	1717
50°	1454	1607	1763
55°	1403	1618	1826
60°	1323	1643	1908
65°	1222	1681	2014
70°	1067	1740	2146
75°	866	1830	2218
80°	639	1794	1794
85°	489	1321	1493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.4	3.1
10°-20°	334.3	8.8
20°-30°	509.0	13.4
30°-40°	618.0	16.3
40°-50°	652.9	17.2
50°-60°	616.1	16.3
60°-70°	512.3	13.5
70°-80°	337.0	8.9
80°-90°	91.9	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°	959.7	25.3
0°-40°	1577.8	41.7
0°-60°	2846.8	75.2
0°-90°	3788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3788.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1229	1229	1229	1229	1229	
5°	1226	1226	1221	1226	1226	116
15°	1178	1180	1181	1192	1192	332
25°	1085	1091	1101	1120	1123	500
35°	953	964	986	1012	1020	597
45°	790	806	845	886	902	608
55°	598	623	690	755	779	533
65°	384	428	528	606	633	379
75°	166	243	352	417	427	179
85°	32	70	86	95	97	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1229.0	1229.0	1229.0	1229.0	1229.0
2.5°	1230.6	1229.0	1222.7	1229.0	1229.0
5°	1225.8	1225.8	1221.1	1225.8	1225.8
7.5°	1217.9	1217.9	1214.7	1221.1	1221.1
10°	1208.4	1208.4	1206.8	1214.7	1214.7
12.5°	1194.1	1195.7	1194.1	1203.6	1203.6
15°	1178.3	1179.9	1181.4	1192.5	1192.5
17.5°	1157.7	1160.8	1164.0	1176.7	1178.3
20°	1138.6	1140.2	1146.6	1160.8	1162.4
22.5°	1113.3	1118.0	1125.9	1140.2	1145.0
25°	1084.7	1091.1	1100.6	1119.6	1122.8
27.5°	1057.7	1062.5	1075.2	1095.8	1102.2
30°	1024.4	1032.4	1048.2	1068.9	1076.8
32.5°	992.7	1000.7	1019.7	1041.9	1048.2
35°	953.1	964.2	986.4	1011.8	1019.7
37.5°	915.0	926.1	953.1	981.6	991.1
40°	875.4	888.1	916.6	949.9	962.6
42.5°	832.6	850.0	881.7	918.2	932.5
45°	789.7	805.6	845.2	886.5	902.3
47.5°	743.8	762.8	805.6	854.8	873.8
50°	694.6	718.4	767.5	821.5	842.1
52.5°	645.4	672.4	727.9	788.2	810.4
55°	597.9	623.2	689.8	754.9	778.6
57.5°	545.5	577.2	650.2	720.0	743.8
60°	491.6	526.5	610.5	683.5	708.9
62.5°	437.7	477.3	572.5	645.4	672.4
65°	383.8	428.2	528.1	605.8	632.7
67.5°	331.4	380.6	486.9	564.6	591.5
70°	271.2	333.0	442.4	518.6	545.5
72.5°	215.7	287.0	399.6	471.0	494.8
75°	166.5	242.6	352.1	417.1	426.6
77.5°	122.1	198.2	302.9	325.1	326.7
80°	82.5	158.6	231.5	228.4	231.5
82.5°	53.9	118.9	145.9	163.3	164.9
85°	31.7	69.8	85.6	95.1	96.7
87.5°	15.9	23.8	30.1	31.7	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)