

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: P313334

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CP187-W2A-U-5000K**

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: P313334
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-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 4249.0 lumens
Efficiency: N/A
Efficacy: 85.2 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

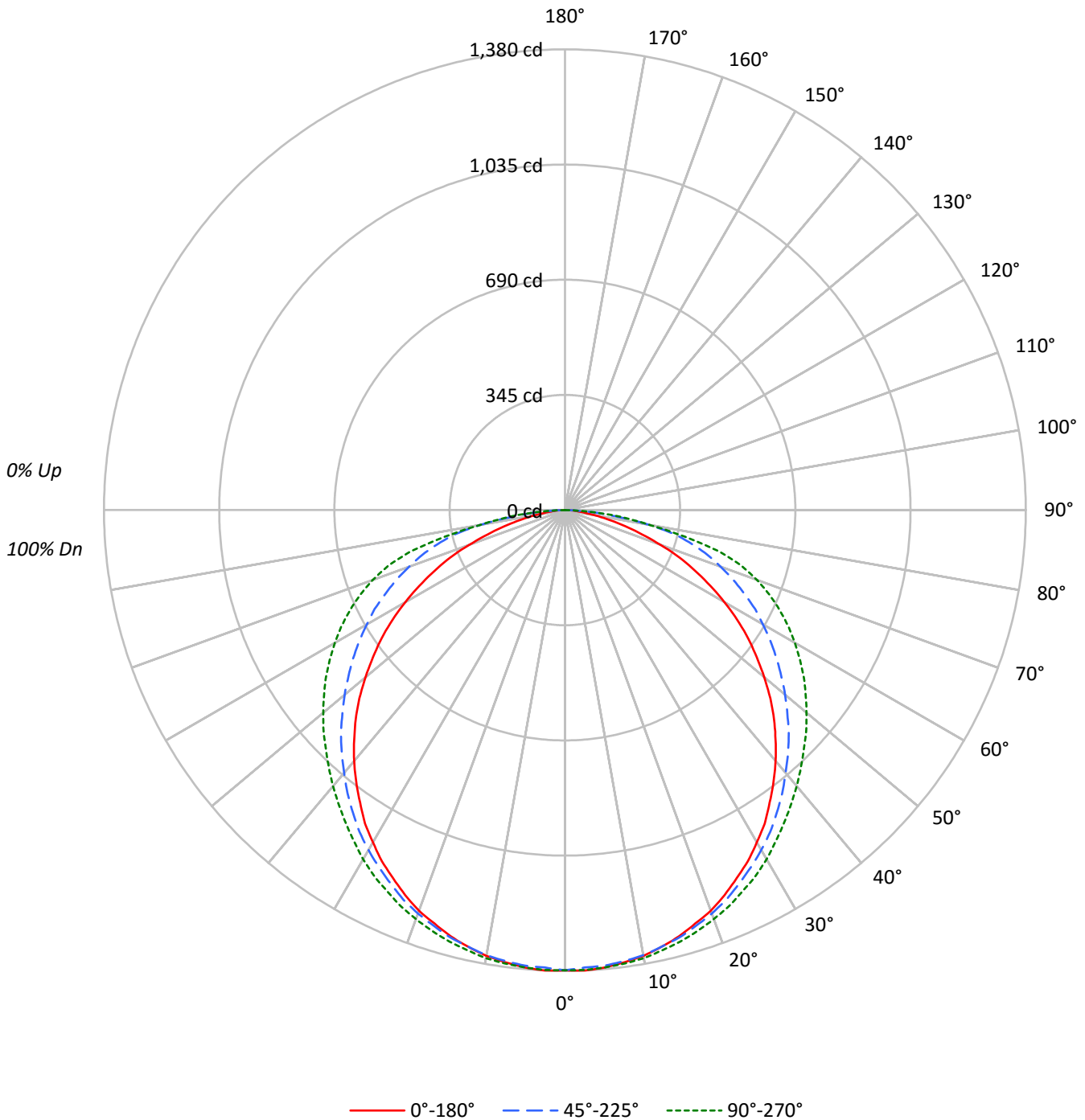
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1855	1855	1855
5°	1857	1850	1857
10°	1852	1849	1862
15°	1841	1846	1863
20°	1829	1841	1867
25°	1806	1833	1870
30°	1785	1827	1876
35°	1756	1817	1879
40°	1725	1806	1896
45°	1686	1804	1926
50°	1631	1802	1977
55°	1573	1815	2049
60°	1484	1843	2140
65°	1371	1886	2260
70°	1197	1952	2407
75°	971	2053	2488
80°	717	2012	2012
85°	550	1484	1675



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.6	3.1
10°-20°	375.0	8.8
20°-30°	570.9	13.4
30°-40°	693.2	16.3
40°-50°	732.4	17.2
50°-60°	691.1	16.3
60°-70°	574.6	13.5
70°-80°	378.1	8.9
80°-90°	103.1	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°	1076.5	25.3
0°-40°	1769.8	41.7
0°-60°	3193.3	75.2
0°-90°	4249.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4249.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1379	1379	1379	1379	1379	
5°	1375	1375	1370	1375	1375	131
15°	1322	1323	1325	1338	1338	373
25°	1217	1224	1234	1256	1259	561
35°	1069	1082	1106	1135	1144	669
45°	886	904	948	994	1012	682
55°	671	699	774	847	873	597
65°	430	480	592	680	710	426
75°	187	272	395	468	478	201
85°	36	78	96	107	108	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1378.6	1378.6	1378.6	1378.6	1378.6
2.5°	1380.4	1378.6	1371.5	1378.6	1378.6
5°	1375.0	1375.0	1369.7	1375.0	1375.0
7.5°	1366.1	1366.1	1362.6	1369.7	1369.7
10°	1355.5	1355.5	1353.7	1362.6	1362.6
12.5°	1339.5	1341.2	1339.5	1350.1	1350.1
15°	1321.7	1323.4	1325.2	1337.7	1337.7
17.5°	1298.5	1302.1	1305.7	1319.9	1321.7
20°	1277.2	1279.0	1286.1	1302.1	1303.9
22.5°	1248.7	1254.1	1263.0	1279.0	1284.3
25°	1216.7	1223.8	1234.5	1255.9	1259.4
27.5°	1186.5	1191.8	1206.0	1229.2	1236.3
30°	1149.1	1158.0	1175.8	1198.9	1207.8
32.5°	1113.5	1122.4	1143.8	1168.7	1175.8
35°	1069.1	1081.5	1106.4	1134.9	1143.8
37.5°	1026.4	1038.8	1069.1	1101.1	1111.8
40°	981.9	996.1	1028.2	1065.5	1079.7
42.5°	933.9	953.5	989.0	1029.9	1046.0
45°	885.9	903.6	948.1	994.4	1012.2
47.5°	834.3	855.6	903.6	958.8	980.1
50°	779.1	805.8	861.0	921.4	944.6
52.5°	724.0	754.2	816.5	884.1	909.0
55°	670.6	699.1	773.8	846.7	873.4
57.5°	611.9	647.5	729.3	807.6	834.3
60°	551.4	590.6	684.8	766.7	795.1
62.5°	491.0	535.4	642.2	724.0	754.2
65°	430.5	480.3	592.3	679.5	709.8
67.5°	371.8	426.9	546.1	633.3	663.5
70°	304.2	373.6	496.3	581.7	611.9
72.5°	241.9	322.0	448.3	528.3	555.0
75°	186.8	272.2	394.9	467.8	478.5
77.5°	137.0	222.4	339.8	364.7	366.4
80°	92.5	177.9	259.7	256.2	259.7
82.5°	60.5	133.4	163.7	183.2	185.0
85°	35.6	78.3	96.1	106.7	108.5
87.5°	17.8	26.7	33.8	35.6	39.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)