

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: P313758

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP187-W2A-U-4500K**

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: P313758
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 4300.0 lumens
Efficiency: N/A
Efficacy: 71.1 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

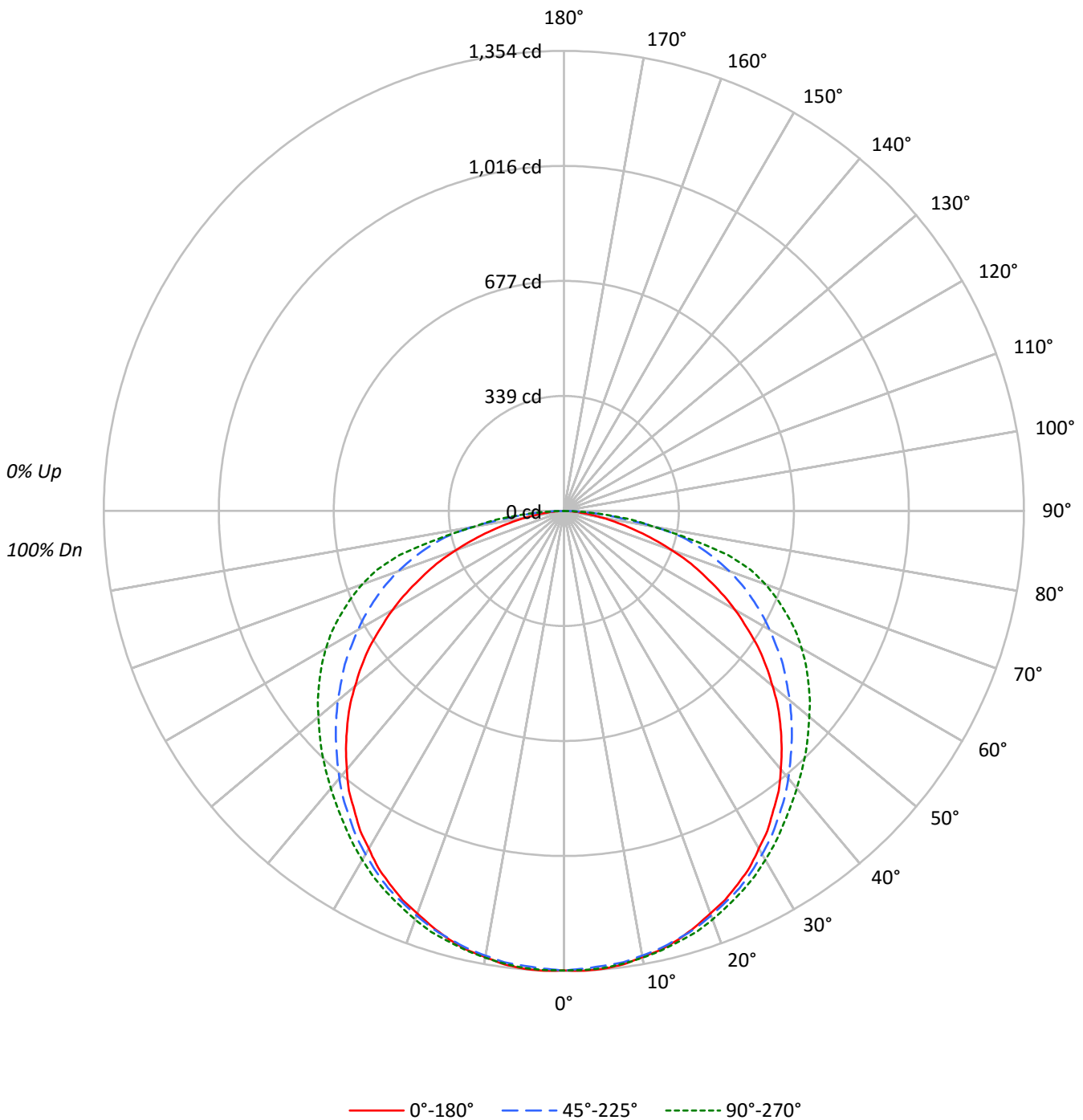
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1819	1819	1819
5°	1826	1815	1823
10°	1821	1815	1824
15°	1818	1815	1827
20°	1805	1814	1832
25°	1799	1818	1837
30°	1783	1813	1842
35°	1766	1808	1850
40°	1746	1806	1873
45°	1717	1806	1916
50°	1679	1817	1973
55°	1636	1846	2061
60°	1567	1883	2175
65°	1467	1949	2309
70°	1334	2039	2484
75°	1131	2151	2595
80°	893	2165	2099
85°	659	1646	1843



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.3	3.0
10°-20°	369.2	8.6
20°-30°	564.5	13.1
30°-40°	690.1	16.0
40°-50°	735.5	17.1
50°-60°	703.3	16.4
60°-70°	595.8	13.9
70°-80°	400.4	9.3
80°-90°	112.9	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°	1062.0	24.7
0°-40°	1752.1	40.7
0°-60°	3190.9	74.2
0°-90°	4300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4300.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1352	1352	1352	1352	1352	
5°	1352	1350	1344	1350	1350	128
15°	1305	1305	1303	1314	1312	368
25°	1212	1216	1224	1235	1237	558
35°	1075	1084	1101	1122	1126	673
45°	902	917	949	990	1007	696
55°	697	723	787	849	879	621
65°	461	508	612	693	725	457
75°	218	296	414	484	499	233
85°	43	87	107	115	119	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1352.2	1352.2	1352.2	1352.2	1352.2
2.5°	1354.4	1354.4	1348.0	1352.2	1352.2
5°	1352.2	1350.1	1343.7	1350.1	1350.1
7.5°	1345.8	1343.7	1339.4	1345.8	1343.7
10°	1333.0	1333.0	1328.8	1335.2	1335.2
12.5°	1322.4	1320.2	1318.1	1326.6	1324.5
15°	1305.3	1305.3	1303.2	1313.8	1311.7
17.5°	1284.0	1286.1	1288.2	1296.8	1298.9
20°	1260.5	1264.8	1266.9	1279.7	1279.7
22.5°	1239.2	1241.3	1245.6	1258.4	1258.4
25°	1211.5	1215.7	1224.3	1234.9	1237.1
27.5°	1183.7	1185.9	1196.5	1211.5	1213.6
30°	1147.5	1153.9	1166.7	1183.7	1185.9
32.5°	1115.5	1121.9	1136.8	1153.9	1158.1
35°	1075.0	1083.5	1100.6	1121.9	1126.1
37.5°	1038.7	1045.1	1066.4	1089.9	1096.3
40°	993.9	1006.7	1028.0	1055.8	1066.4
42.5°	949.1	961.9	987.5	1023.8	1036.6
45°	902.2	917.1	949.1	989.6	1006.7
47.5°	855.3	872.3	908.6	955.5	974.7
50°	802.0	823.3	868.1	921.4	942.7
52.5°	750.8	776.4	825.4	885.1	912.9
55°	697.4	723.0	787.0	848.9	878.7
57.5°	637.7	671.8	742.2	812.6	844.6
60°	582.3	614.3	699.6	776.4	808.4
62.5°	522.5	565.2	656.9	738.0	770.0
65°	460.7	507.6	612.1	693.2	725.2
67.5°	405.2	456.4	567.3	648.4	680.4
70°	339.1	403.1	518.3	599.3	631.3
72.5°	277.3	347.7	467.1	546.0	575.9
75°	217.6	296.5	413.8	484.2	499.1
77.5°	162.1	245.3	358.3	388.2	377.5
80°	115.2	196.2	279.4	264.5	270.9
82.5°	74.6	149.3	172.8	196.2	202.6
85°	42.7	87.4	106.6	115.2	119.4
87.5°	19.2	32.0	42.7	42.7	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)