

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: P309753

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P309753
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: 24FCZ2-70HE-UNV-L82765-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: 4320.0 lumens
Efficiency: N/A
Efficacy: 75.4 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

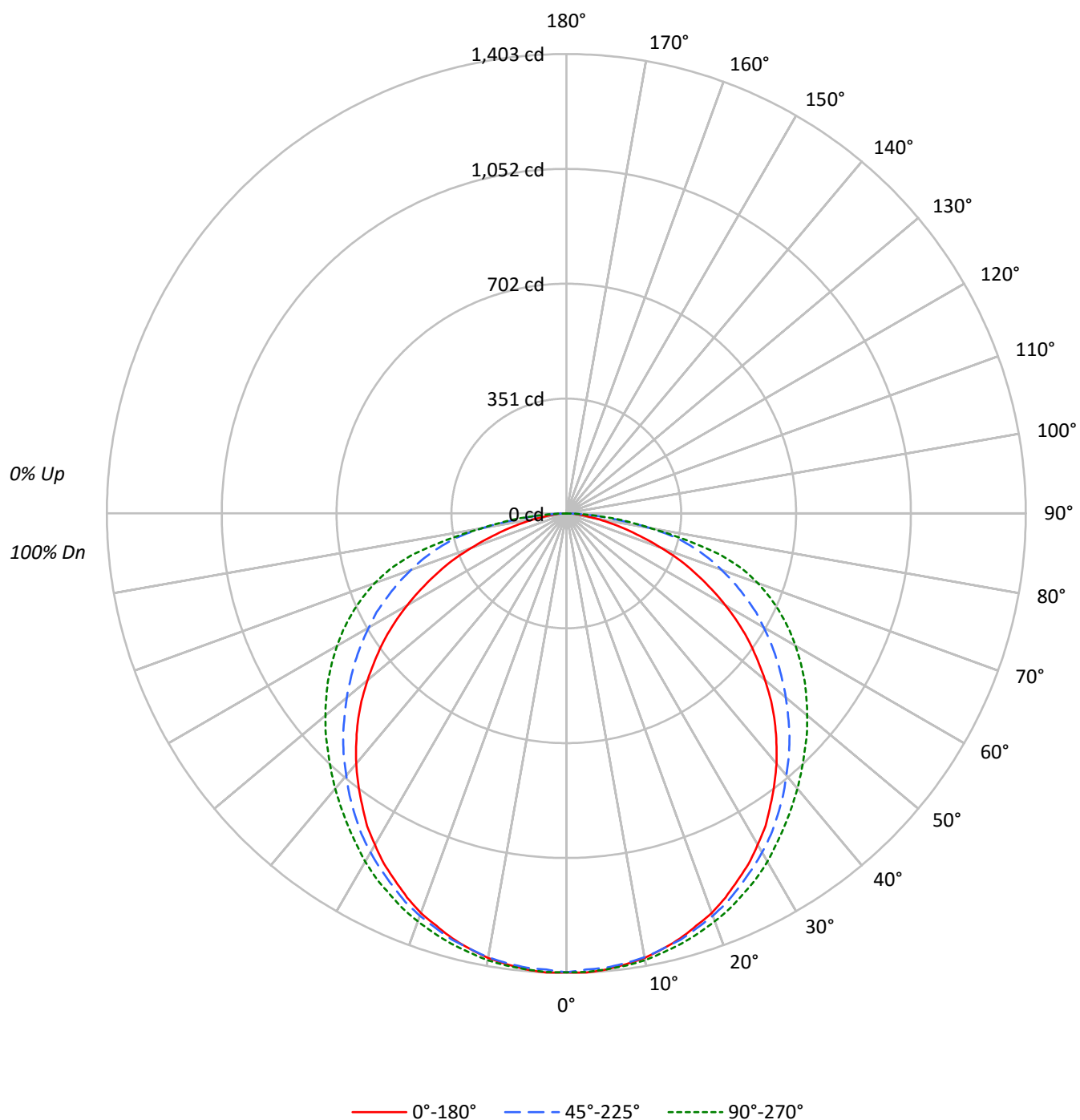
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	1886	1886	1886
5°	1888	1881	1888
10°	1883	1880	1893
15°	1872	1877	1894
20°	1859	1872	1898
25°	1836	1863	1901
30°	1815	1857	1908
35°	1785	1848	1910
40°	1753	1836	1928
45°	1714	1834	1958
50°	1658	1832	2010
55°	1599	1845	2083
60°	1509	1874	2175
65°	1394	1917	2297
70°	1217	1985	2447
75°	987	2087	2529
80°	728	2046	2046
85°	559	1508	1703



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.8	3.1
10°-20°	381.3	8.8
20°-30°	580.5	13.4
30°-40°	704.8	16.3
40°-50°	744.6	17.2
50°-60°	702.6	16.3
60°-70°	584.2	13.5
70°-80°	384.4	8.9
80°-90°	104.8	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°	1094.5	25.3
0°-40°	1799.3	41.7
0°-60°	3246.6	75.2
0°-90°	4320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4320.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1402	1402	1402	1402	1402	
5°	1398	1398	1393	1398	1398	133
15°	1344	1346	1347	1360	1360	379
25°	1237	1244	1255	1277	1280	571
35°	1087	1100	1125	1154	1163	680
45°	901	919	964	1011	1029	694
55°	682	711	787	861	888	607
65°	438	488	602	691	722	433
75°	190	277	402	476	486	205
85°	36	80	98	108	110	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1401.6	1401.6	1401.6	1401.6	1401.6
2.5°	1403.4	1401.6	1394.4	1401.6	1401.6
5°	1398.0	1398.0	1392.6	1398.0	1398.0
7.5°	1389.0	1389.0	1385.4	1392.6	1392.6
10°	1378.1	1378.1	1376.3	1385.4	1385.4
12.5°	1361.8	1363.6	1361.8	1372.7	1372.7
15°	1343.8	1345.6	1347.4	1360.0	1360.0
17.5°	1320.2	1323.9	1327.5	1341.9	1343.8
20°	1298.5	1300.3	1307.6	1323.9	1325.7
22.5°	1269.6	1275.0	1284.1	1300.3	1305.8
25°	1237.0	1244.3	1255.1	1276.8	1280.5
27.5°	1206.3	1211.7	1226.2	1249.7	1256.9
30°	1168.3	1177.4	1195.5	1219.0	1228.0
32.5°	1132.2	1141.2	1162.9	1188.2	1195.5
35°	1086.9	1099.6	1124.9	1153.9	1162.9
37.5°	1043.5	1056.2	1086.9	1119.5	1130.3
40°	998.3	1012.8	1045.3	1083.3	1097.8
42.5°	949.5	969.4	1005.6	1047.2	1063.4
45°	900.7	918.7	964.0	1011.0	1029.1
47.5°	848.2	869.9	918.7	974.8	996.5
50°	792.1	819.3	875.3	936.8	960.3
52.5°	736.1	766.8	830.1	898.9	924.2
55°	681.8	710.8	786.7	860.9	888.0
57.5°	622.1	658.3	741.5	821.1	848.2
60°	560.7	600.4	696.3	779.5	808.4
62.5°	499.2	544.4	652.9	736.1	766.8
65°	437.7	488.3	602.2	690.9	721.6
67.5°	378.0	434.1	555.2	643.8	674.6
70°	309.3	379.8	504.6	591.4	622.1
72.5°	246.0	327.3	455.8	537.1	564.3
75°	189.9	276.7	401.5	475.6	486.5
77.5°	139.3	226.1	345.4	370.8	372.6
80°	94.0	180.9	264.0	260.4	264.0
82.5°	61.5	135.6	166.4	186.3	188.1
85°	36.2	79.6	97.7	108.5	110.3
87.5°	18.1	27.1	34.4	36.2	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)