

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: P313377

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CP125-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: P313377
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-L83050-HRP-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB 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: 5137.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

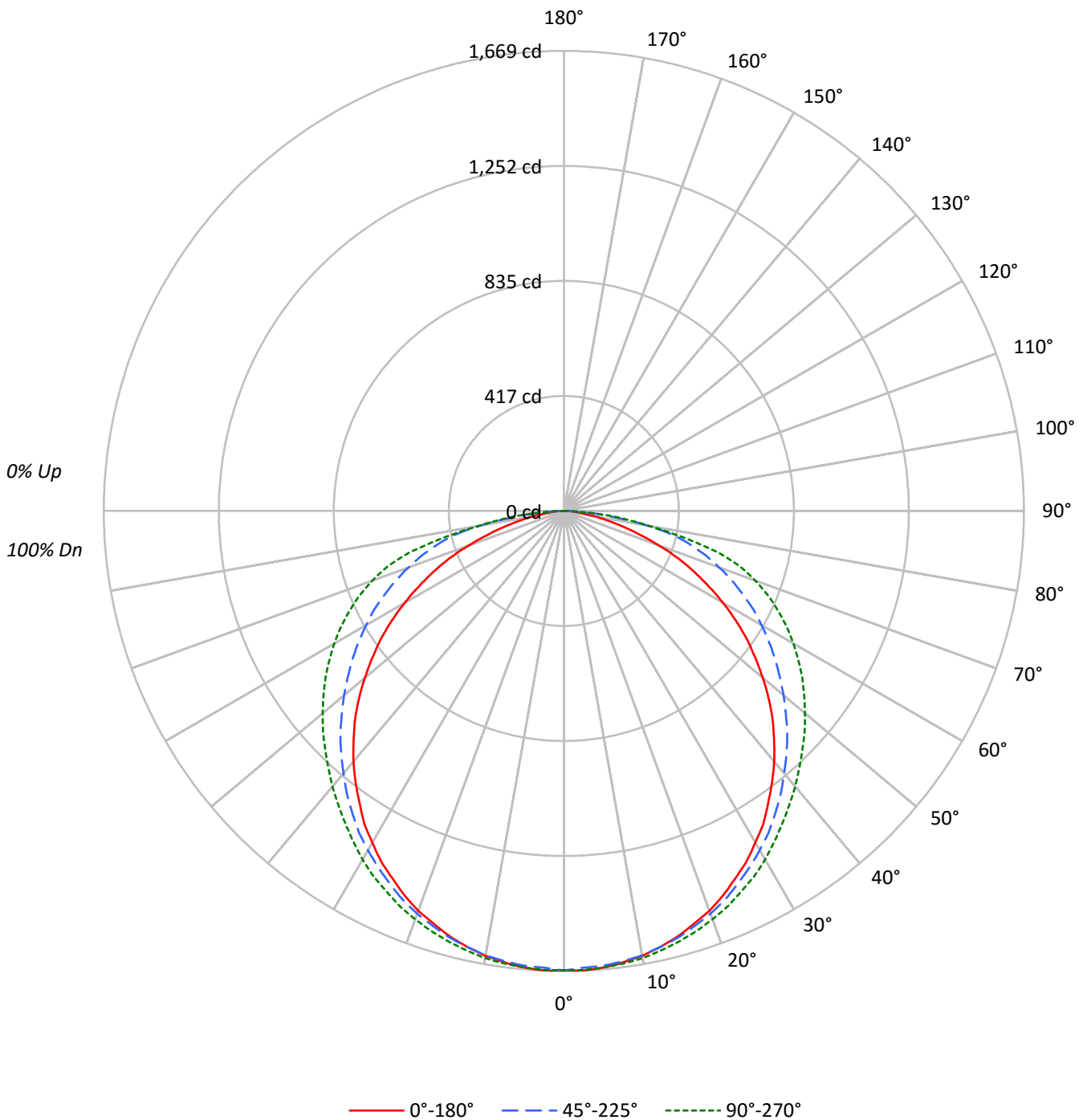
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2243	2243	2243
5°	2245	2237	2245
10°	2239	2236	2251
15°	2226	2232	2253
20°	2211	2226	2257
25°	2184	2216	2260
30°	2158	2208	2269
35°	2123	2197	2271
40°	2085	2183	2293
45°	2038	2181	2328
50°	1972	2179	2390
55°	1902	2194	2477
60°	1794	2228	2587
65°	1657	2280	2732
70°	1447	2360	2910
75°	1174	2482	3007
80°	866	2433	2433
85°	664	1792	2025



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	3.1
10°-20°	453.4	8.8
20°-30°	690.2	13.4
30°-40°	838.1	16.3
40°-50°	885.5	17.2
50°-60°	835.5	16.3
60°-70°	694.7	13.5
70°-80°	457.0	8.9
80°-90°	124.6	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°	1301.5	25.3
0°-40°	2139.6	41.7
0°-60°	3860.6	75.2
0°-90°	5137.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5137.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1667	1667	1667	1667	1667	
5°	1662	1662	1656	1662	1662	158
15°	1598	1600	1602	1617	1617	451
25°	1471	1480	1492	1518	1523	679
35°	1292	1308	1338	1372	1383	809
45°	1071	1092	1146	1202	1224	825
55°	811	845	936	1024	1056	722
65°	520	581	716	822	858	514
75°	226	329	477	566	578	243
85°	43	95	116	129	131	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1666.7	1666.7	1666.7	1666.7	1666.7
2.5°	1668.9	1666.7	1658.1	1666.7	1666.7
5°	1662.4	1662.4	1656.0	1662.4	1662.4
7.5°	1651.6	1651.6	1647.3	1656.0	1656.0
10°	1638.7	1638.7	1636.6	1647.3	1647.3
12.5°	1619.4	1621.5	1619.4	1632.3	1632.3
15°	1597.9	1600.0	1602.2	1617.2	1617.2
17.5°	1569.9	1574.2	1578.5	1595.7	1597.9
20°	1544.1	1546.3	1554.9	1574.2	1576.4
22.5°	1509.7	1516.2	1526.9	1546.3	1552.7
25°	1471.0	1479.6	1492.5	1518.3	1522.6
27.5°	1434.4	1440.9	1458.1	1486.1	1494.7
30°	1389.3	1400.0	1421.5	1449.5	1460.2
32.5°	1346.3	1357.0	1382.8	1412.9	1421.5
35°	1292.5	1307.6	1337.7	1372.1	1382.8
37.5°	1240.9	1255.9	1292.5	1331.2	1344.1
40°	1187.1	1204.3	1243.0	1288.2	1305.4
42.5°	1129.1	1152.7	1195.7	1245.2	1264.5
45°	1071.0	1092.5	1146.3	1202.2	1223.7
47.5°	1008.6	1034.4	1092.5	1159.2	1185.0
50°	942.0	974.2	1040.9	1114.0	1142.0
52.5°	875.3	911.8	987.1	1068.8	1098.9
55°	810.8	845.2	935.5	1023.7	1055.9
57.5°	739.8	782.8	881.7	976.4	1008.6
60°	666.7	714.0	828.0	926.9	961.3
62.5°	593.6	647.3	776.4	875.3	911.8
65°	520.4	580.7	716.1	821.5	858.1
67.5°	449.5	516.1	660.2	765.6	802.2
70°	367.8	451.6	600.0	703.2	739.8
72.5°	292.5	389.3	541.9	638.7	671.0
75°	225.8	329.0	477.4	565.6	578.5
77.5°	165.6	268.8	410.8	440.9	443.0
80°	111.8	215.1	314.0	309.7	314.0
82.5°	73.1	161.3	197.9	221.5	223.7
85°	43.0	94.6	116.1	129.0	131.2
87.5°	21.5	32.3	40.9	43.0	47.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)