

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: P309765

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-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: P309765
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 4611.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

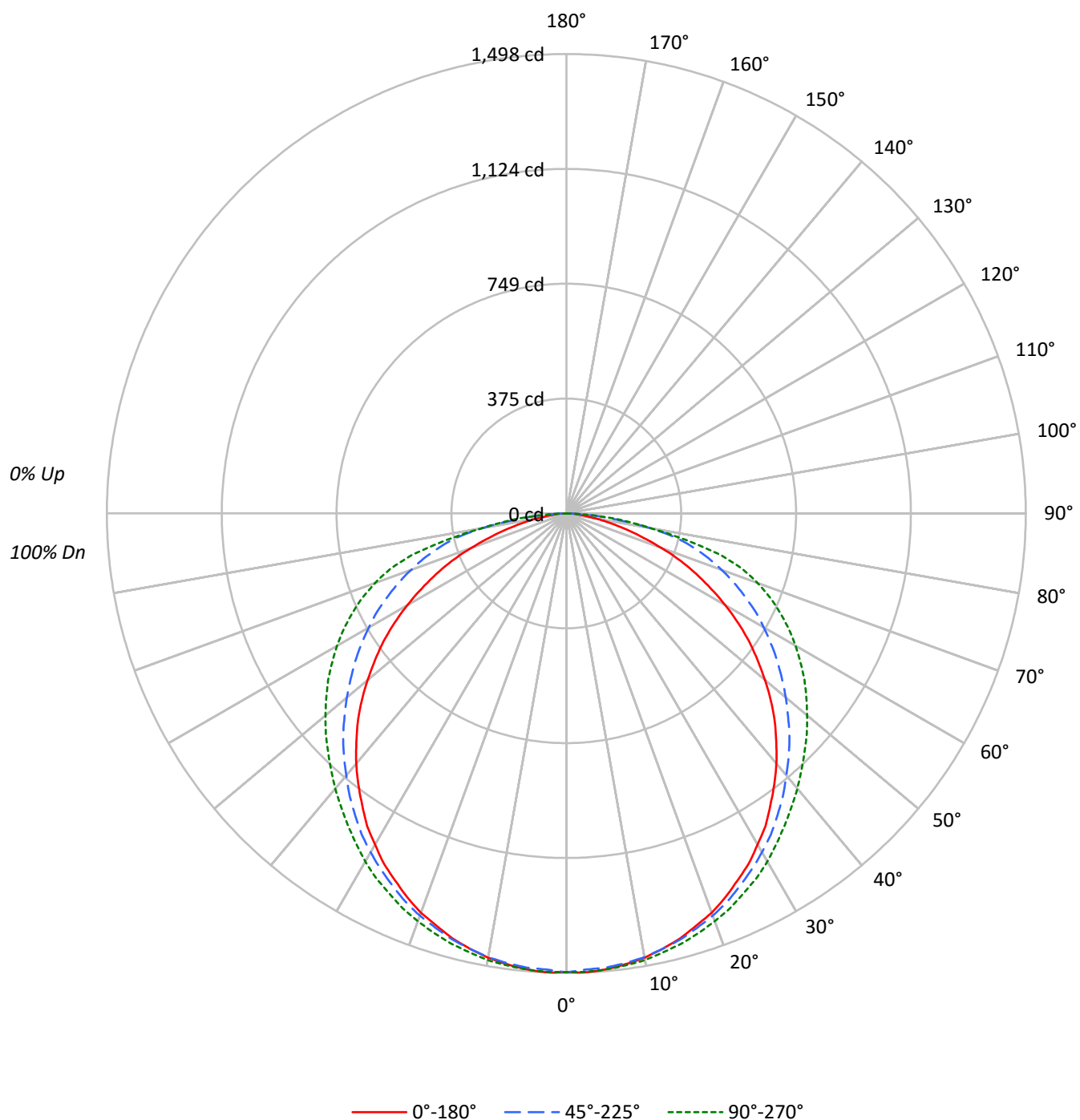
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2013	2013	2013
5°	2015	2008	2015
10°	2010	2007	2020
15°	1998	2003	2022
20°	1985	1998	2026
25°	1960	1989	2029
30°	1937	1982	2036
35°	1906	1972	2039
40°	1872	1960	2058
45°	1829	1958	2090
50°	1770	1956	2146
55°	1707	1970	2223
60°	1610	2000	2322
65°	1487	2046	2452
70°	1299	2119	2612
75°	1054	2228	2700
80°	778	2183	2183
85°	596	1609	1819



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.7	3.1
10°-20°	407.0	8.8
20°-30°	619.6	13.4
30°-40°	752.3	16.3
40°-50°	794.8	17.2
50°-60°	750.0	16.3
60°-70°	623.6	13.5
70°-80°	410.2	8.9
80°-90°	111.8	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°	1168.3	25.3
0°-40°	1920.6	41.7
0°-60°	3465.3	75.2
0°-90°	4611.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4611.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1492	1492	1486	1492	1492	142
15°	1434	1436	1438	1452	1452	405
25°	1320	1328	1340	1363	1367	609
35°	1160	1174	1201	1232	1241	726
45°	961	981	1029	1079	1098	740
55°	728	759	840	919	948	648
65°	467	521	643	737	770	462
75°	203	295	428	508	519	218
85°	39	85	104	116	118	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1496.0	1496.0	1496.0	1496.0	1496.0
2.5°	1498.0	1496.0	1488.3	1496.0	1496.0
5°	1492.2	1492.2	1486.4	1492.2	1492.2
7.5°	1482.5	1482.5	1478.7	1486.4	1486.4
10°	1470.9	1470.9	1469.0	1478.7	1478.7
12.5°	1453.6	1455.5	1453.6	1465.2	1465.2
15°	1434.3	1436.2	1438.1	1451.6	1451.6
17.5°	1409.2	1413.0	1416.9	1432.3	1434.3
20°	1386.0	1387.9	1395.7	1413.0	1415.0
22.5°	1355.1	1360.9	1370.6	1387.9	1393.7
25°	1320.4	1328.1	1339.7	1362.8	1366.7
27.5°	1287.6	1293.4	1308.8	1333.9	1341.6
30°	1247.0	1256.7	1276.0	1301.1	1310.7
32.5°	1208.4	1218.1	1241.2	1268.3	1276.0
35°	1160.2	1173.7	1200.7	1231.6	1241.2
37.5°	1113.8	1127.3	1160.2	1194.9	1206.5
40°	1065.6	1081.0	1115.8	1156.3	1171.7
42.5°	1013.4	1034.7	1073.3	1117.7	1135.1
45°	961.3	980.6	1028.9	1079.1	1098.4
47.5°	905.3	928.5	980.6	1040.5	1063.6
50°	845.5	874.5	934.3	999.9	1025.0
52.5°	785.7	818.5	886.0	959.4	986.4
55°	727.8	758.6	839.7	918.9	947.8
57.5°	664.0	702.7	791.5	876.4	905.3
60°	598.4	640.9	743.2	832.0	862.9
62.5°	532.8	581.0	696.9	785.7	818.5
65°	467.2	521.2	642.8	737.4	770.2
67.5°	403.4	463.3	592.6	687.2	720.0
70°	330.1	405.4	538.6	631.2	664.0
72.5°	262.5	349.4	486.5	573.3	602.3
75°	202.7	295.3	428.5	507.7	519.3
77.5°	148.6	241.3	368.7	395.7	397.7
80°	100.4	193.0	281.8	278.0	281.8
82.5°	65.6	144.8	177.6	198.8	200.8
85°	38.6	84.9	104.2	115.8	117.8
87.5°	19.3	29.0	36.7	38.6	42.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)