

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: P309760

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-6500K**

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: P309760
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-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 6500K 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: 4783.0 lumens
Efficiency: N/A
Efficacy: 79.3 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

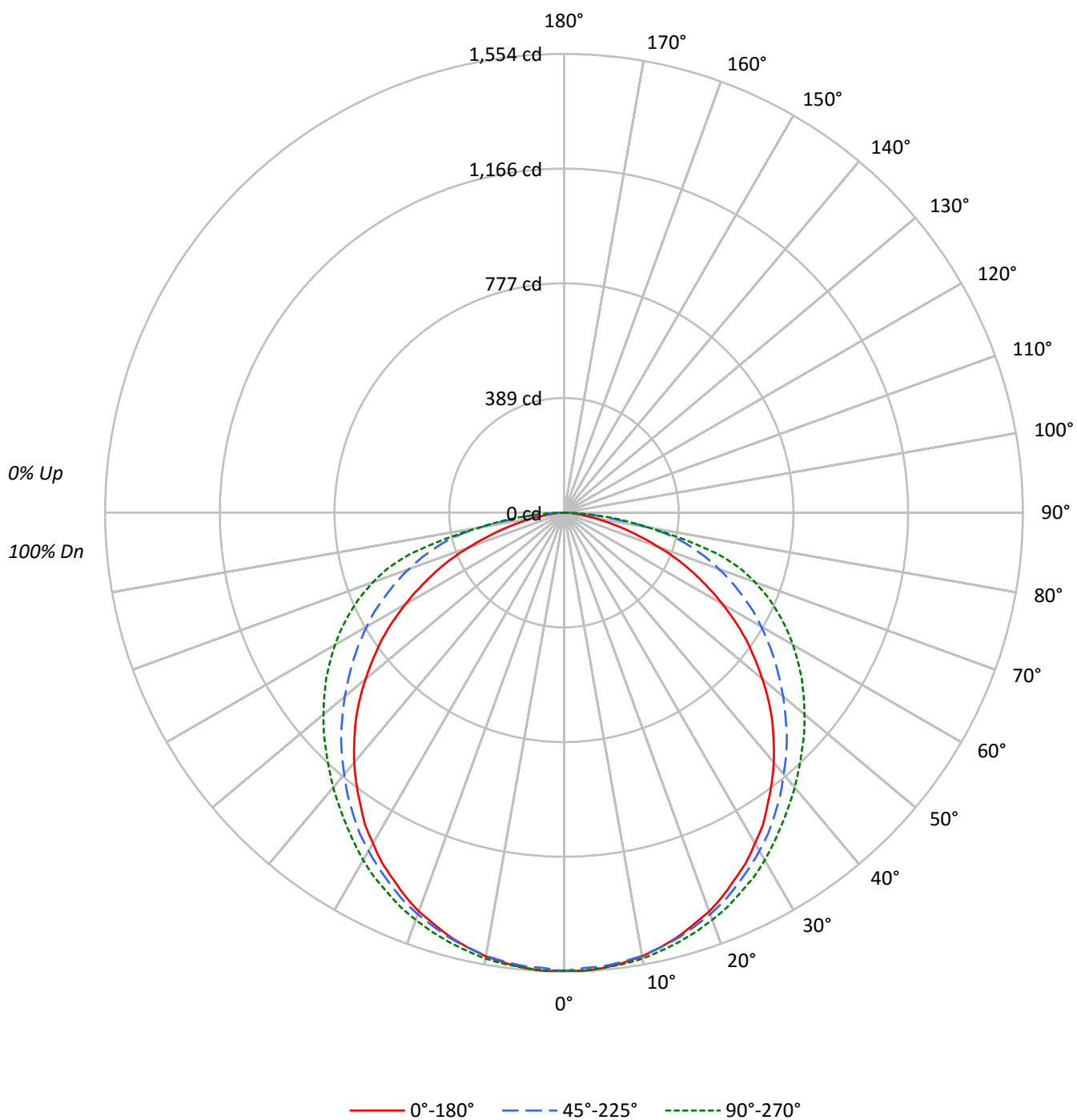
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		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°	2088	2088	2088
5°	2091	2082	2091
10°	2085	2082	2096
15°	2072	2078	2098
20°	2059	2073	2102
25°	2033	2063	2105
30°	2010	2056	2112
35°	1977	2046	2115
40°	1941	2033	2135
45°	1897	2031	2168
50°	1836	2029	2226
55°	1771	2043	2306
60°	1670	2074	2409
65°	1543	2123	2544
70°	1347	2198	2710
75°	1093	2311	2800
80°	807	2265	2265
85°	618	1669	1885



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.0	3.1
10°-20°	422.2	8.8
20°-30°	642.7	13.4
30°-40°	780.4	16.3
40°-50°	824.4	17.2
50°-60°	778.0	16.3
60°-70°	646.8	13.5
70°-80°	425.6	8.9
80°-90°	116.0	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°	1211.8	25.3
0°-40°	1992.2	41.7
0°-60°	3594.6	75.2
0°-90°	4783.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4783.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1552	1552	1552	1552	1552	
5°	1548	1548	1542	1548	1548	147
15°	1488	1490	1492	1506	1506	420
25°	1370	1378	1390	1414	1418	632
35°	1203	1217	1246	1278	1288	753
45°	997	1017	1067	1119	1139	768
55°	755	787	871	953	983	672
65°	485	541	667	765	799	479
75°	210	306	444	527	539	227
85°	40	88	108	120	122	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1551.8	1551.8	1551.8	1551.8	1551.8
2.5°	1553.9	1551.8	1543.8	1551.8	1551.8
5°	1547.8	1547.8	1541.8	1547.8	1547.8
7.5°	1537.8	1537.8	1533.8	1541.8	1541.8
10°	1525.8	1525.8	1523.8	1533.8	1533.8
12.5°	1507.8	1509.8	1507.8	1519.8	1519.8
15°	1487.8	1489.8	1491.8	1505.8	1505.8
17.5°	1461.7	1465.7	1469.8	1485.8	1487.8
20°	1437.7	1439.7	1447.7	1465.7	1467.7
22.5°	1405.7	1411.7	1421.7	1439.7	1445.7
25°	1369.6	1377.6	1389.7	1413.7	1417.7
27.5°	1335.6	1341.6	1357.6	1383.6	1391.7
30°	1293.5	1303.6	1323.6	1349.6	1359.6
32.5°	1253.5	1263.5	1287.5	1315.6	1323.6
35°	1203.4	1217.4	1245.5	1277.5	1287.5
37.5°	1155.4	1169.4	1203.4	1239.5	1251.5
40°	1105.3	1121.3	1157.4	1199.4	1215.4
42.5°	1051.3	1073.3	1113.3	1159.4	1177.4
45°	997.2	1017.2	1067.3	1119.3	1139.4
47.5°	939.1	963.1	1017.2	1079.3	1103.3
50°	877.0	907.1	969.2	1037.2	1063.3
52.5°	815.0	849.0	919.1	995.2	1023.2
55°	754.9	786.9	871.0	953.1	983.2
57.5°	688.8	728.9	821.0	909.1	939.1
60°	620.7	664.8	770.9	863.0	895.1
62.5°	552.7	602.7	722.9	815.0	849.0
65°	484.6	540.6	666.8	764.9	799.0
67.5°	418.5	480.6	614.7	712.8	746.9
70°	342.4	420.5	558.7	654.8	688.8
72.5°	272.3	362.4	504.6	594.7	624.7
75°	210.3	306.4	444.5	526.6	538.6
77.5°	154.2	250.3	382.5	410.5	412.5
80°	104.1	200.2	292.3	288.3	292.3
82.5°	68.1	150.2	184.2	206.2	208.2
85°	40.0	88.1	108.1	120.1	122.1
87.5°	20.0	30.0	38.0	40.0	44.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)