

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: P313409

Luminaire Tested: **24FCZ2-75HE-UNV-L83050-HRP-CP187-W2A-U-5000K**

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: P313409
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: 24FCZ2-75HE-UNV-L83050-HRP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5000K 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: 5310.0 lumens
Efficiency: N/A
Efficacy: 80.6 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

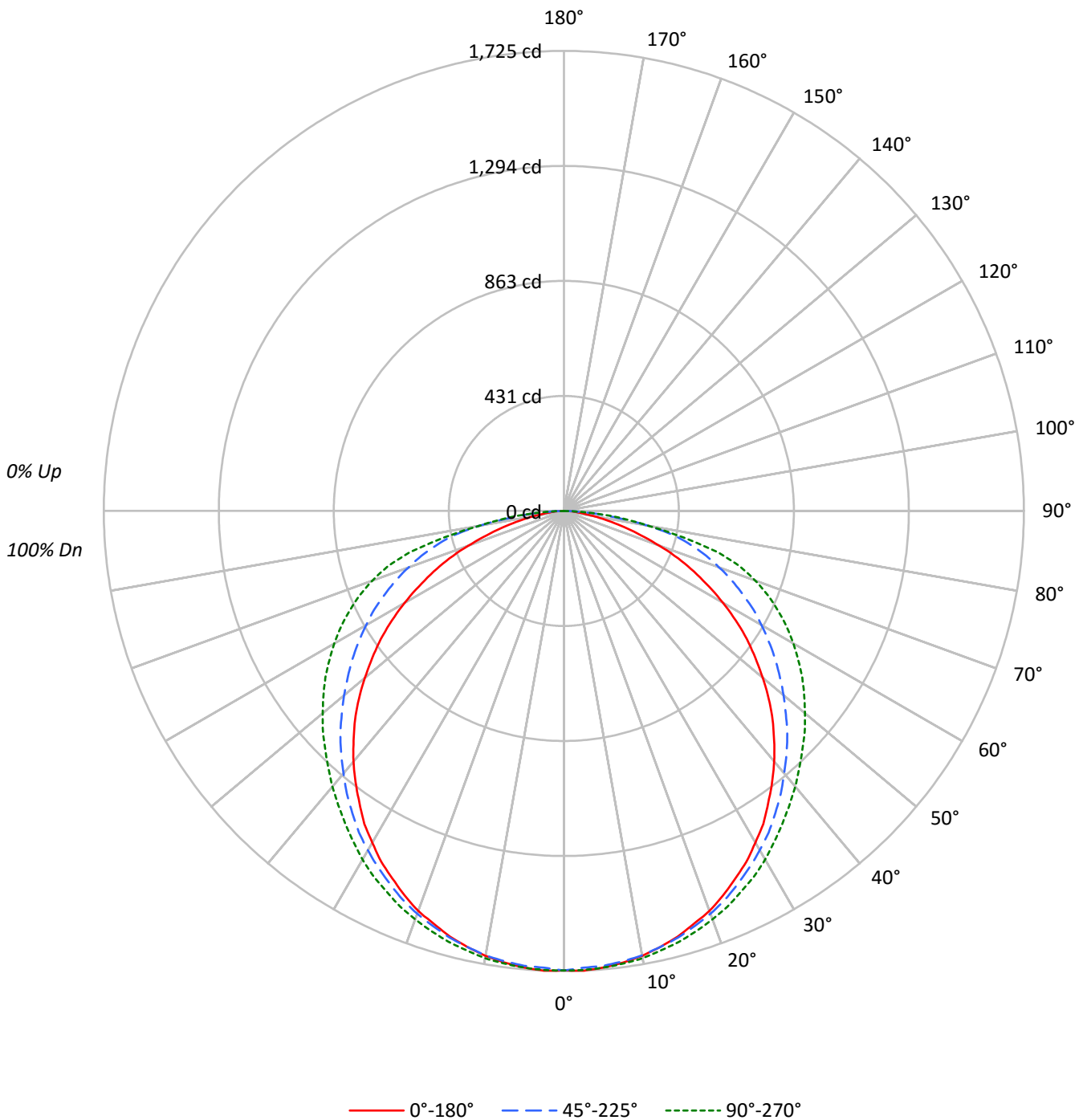
Input Watts (W): 65.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2318	2318	2318
5°	2321	2312	2321
10°	2314	2311	2326
15°	2301	2307	2329
20°	2285	2301	2333
25°	2257	2290	2337
30°	2231	2283	2345
35°	2194	2271	2348
40°	2155	2257	2370
45°	2107	2255	2407
50°	2038	2252	2471
55°	1966	2268	2560
60°	1854	2303	2674
65°	1713	2357	2824
70°	1495	2440	3008
75°	1213	2565	3109
80°	896	2515	2515
85°	687	1853	2093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.2	3.1
10°-20°	468.7	8.8
20°-30°	713.5	13.4
30°-40°	866.3	16.3
40°-50°	915.3	17.2
50°-60°	863.7	16.3
60°-70°	718.1	13.5
70°-80°	472.4	8.9
80°-90°	128.8	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°	1345.4	25.3
0°-40°	2211.7	41.7
0°-60°	3990.7	75.2
0°-90°	5310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1718	1718	1712	1718	1718	163
15°	1652	1654	1656	1672	1672	466
25°	1520	1529	1543	1569	1574	701
35°	1336	1352	1383	1418	1429	836
45°	1107	1129	1185	1243	1265	853
55°	838	874	967	1058	1092	746
65°	538	600	740	849	887	532
75°	233	340	494	585	598	251
85°	44	98	120	133	136	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1722.8	1722.8	1722.8	1722.8	1722.8
2.5°	1725.1	1722.8	1713.9	1722.8	1722.8
5°	1718.4	1718.4	1711.7	1718.4	1718.4
7.5°	1707.3	1707.3	1702.8	1711.7	1711.7
10°	1693.9	1693.9	1691.7	1702.8	1702.8
12.5°	1673.9	1676.2	1673.9	1687.3	1687.3
15°	1651.7	1653.9	1656.1	1671.7	1671.7
17.5°	1622.8	1627.2	1631.7	1649.5	1651.7
20°	1596.1	1598.3	1607.2	1627.2	1629.5
22.5°	1560.6	1567.2	1578.3	1598.3	1605.0
25°	1520.5	1529.4	1542.8	1569.4	1573.9
27.5°	1482.7	1489.4	1507.2	1536.1	1545.0
30°	1436.1	1447.2	1469.4	1498.3	1509.4
32.5°	1391.6	1402.7	1429.4	1460.5	1469.4
35°	1336.0	1351.6	1382.7	1418.3	1429.4
37.5°	1282.7	1298.2	1336.0	1376.0	1389.4
40°	1227.1	1244.9	1284.9	1331.6	1349.4
42.5°	1167.1	1191.5	1236.0	1287.1	1307.1
45°	1107.1	1129.3	1184.9	1242.7	1264.9
47.5°	1042.6	1069.3	1129.3	1198.2	1224.9
50°	973.7	1007.0	1075.9	1151.5	1180.4
52.5°	904.8	942.6	1020.4	1104.8	1136.0
55°	838.1	873.6	967.0	1058.2	1091.5
57.5°	764.7	809.2	911.4	1009.2	1042.6
60°	689.1	738.0	855.9	958.1	993.7
62.5°	613.6	669.1	802.5	904.8	942.6
65°	538.0	600.2	740.3	849.2	887.0
67.5°	464.6	533.5	682.5	791.4	829.2
70°	380.1	466.8	620.2	726.9	764.7
72.5°	302.3	402.4	560.2	660.2	693.6
75°	233.4	340.1	493.5	584.7	598.0
77.5°	171.2	277.9	424.6	455.7	457.9
80°	115.6	222.3	324.6	320.1	324.6
82.5°	75.6	166.7	204.5	229.0	231.2
85°	44.5	97.8	120.0	133.4	135.6
87.5°	22.2	33.3	42.2	44.5	48.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)