

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: P309764

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-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: P309764
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 4530.0 lumens
Efficiency: N/A
Efficacy: 77.6 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

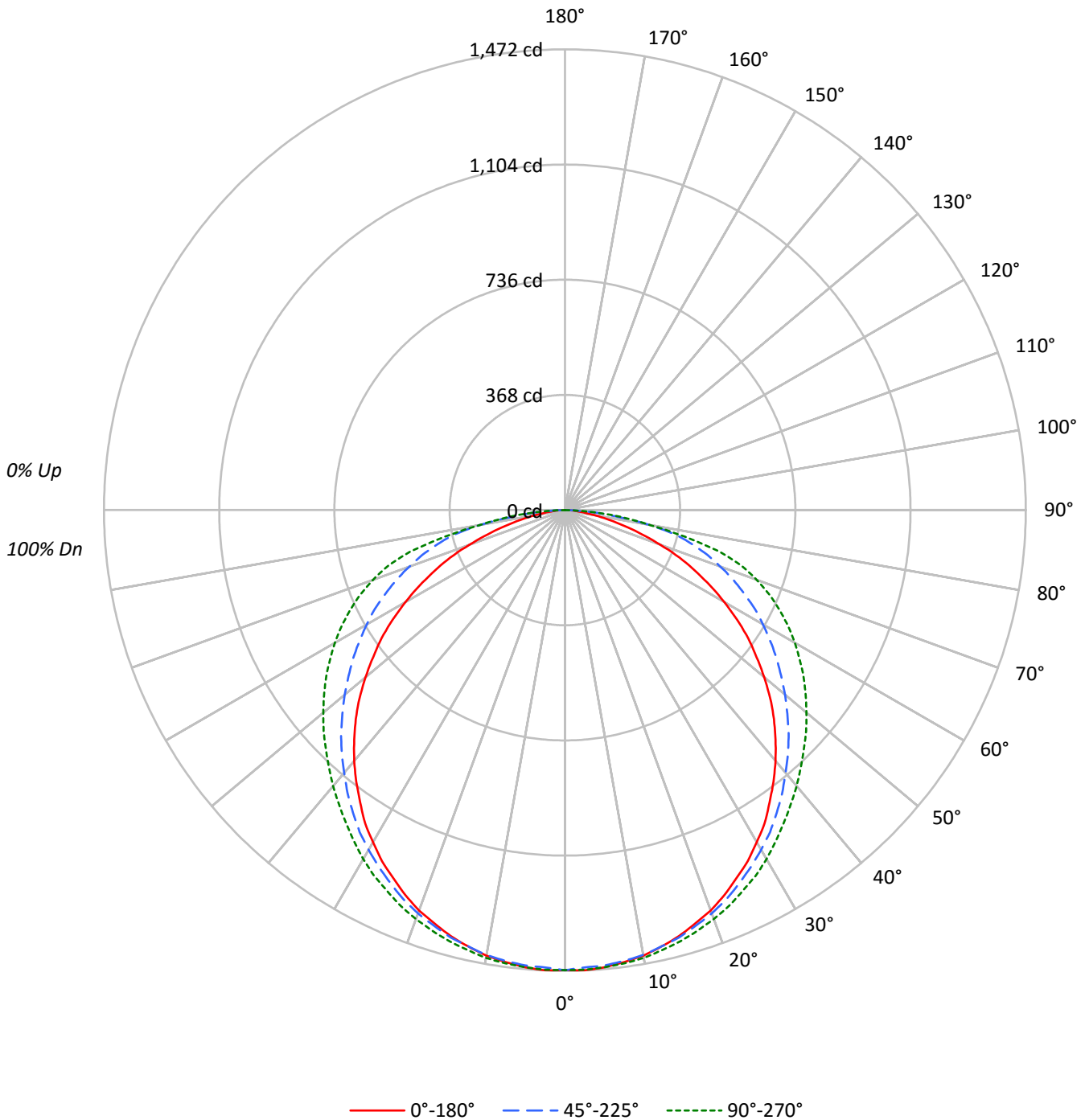
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1978	1978	1978
5°	1980	1972	1980
10°	1974	1972	1985
15°	1963	1968	1986
20°	1950	1963	1990
25°	1926	1954	1993
30°	1903	1948	2001
35°	1872	1938	2003
40°	1839	1925	2022
45°	1797	1923	2053
50°	1739	1921	2108
55°	1677	1935	2184
60°	1582	1965	2281
65°	1461	2011	2409
70°	1276	2081	2567
75°	1035	2189	2652
80°	764	2146	2146
85°	585	1581	1786



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.2	3.1
10°-20°	399.8	8.8
20°-30°	608.7	13.4
30°-40°	739.1	16.3
40°-50°	780.8	17.2
50°-60°	736.8	16.3
60°-70°	612.6	13.5
70°-80°	403.1	8.9
80°-90°	109.8	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°	1147.7	25.3
0°-40°	1886.8	41.7
0°-60°	3404.5	75.2
0°-90°	4530.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4530.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1470	1470	1470	1470	1470	
5°	1466	1466	1460	1466	1466	139
15°	1409	1411	1413	1426	1426	397
25°	1297	1305	1316	1339	1343	598
35°	1140	1153	1180	1210	1219	713
45°	944	963	1011	1060	1079	727
55°	715	745	825	903	931	637
65°	459	512	632	724	757	454
75°	199	290	421	499	510	215
85°	38	83	102	114	116	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1469.8	1469.8	1469.8	1469.8	1469.8
2.5°	1471.7	1469.8	1462.2	1469.8	1469.8
5°	1466.0	1466.0	1460.3	1466.0	1466.0
7.5°	1456.5	1456.5	1452.7	1460.3	1460.3
10°	1445.1	1445.1	1443.2	1452.7	1452.7
12.5°	1428.0	1429.9	1428.0	1439.4	1439.4
15°	1409.1	1411.0	1412.9	1426.1	1426.1
17.5°	1384.4	1388.2	1392.0	1407.2	1409.1
20°	1361.7	1363.6	1371.1	1388.2	1390.1
22.5°	1331.3	1337.0	1346.5	1363.6	1369.2
25°	1297.2	1304.8	1316.1	1338.9	1342.7
27.5°	1264.9	1270.6	1285.8	1310.5	1318.0
30°	1225.1	1234.6	1253.6	1278.2	1287.7
32.5°	1187.2	1196.7	1219.4	1246.0	1253.6
35°	1139.8	1153.1	1179.6	1209.9	1219.4
37.5°	1094.3	1107.5	1139.8	1173.9	1185.3
40°	1046.8	1062.0	1096.2	1136.0	1151.2
42.5°	995.6	1016.5	1054.4	1098.1	1115.1
45°	944.4	963.4	1010.8	1060.1	1079.1
47.5°	889.4	912.2	963.4	1022.2	1045.0
50°	830.7	859.1	917.9	982.4	1007.0
52.5°	771.9	804.1	870.5	942.5	969.1
55°	715.0	745.3	825.0	902.7	931.2
57.5°	652.4	690.3	777.6	861.0	889.4
60°	587.9	629.6	730.1	817.4	847.7
62.5°	523.4	570.8	684.6	771.9	804.1
65°	458.9	512.0	631.5	724.5	756.7
67.5°	396.4	455.2	582.2	675.1	707.4
70°	324.3	398.3	529.1	620.1	652.4
72.5°	257.9	343.3	477.9	563.3	591.7
75°	199.1	290.2	421.0	498.8	510.1
77.5°	146.0	237.1	362.2	388.8	390.7
80°	98.6	189.6	276.9	273.1	276.9
82.5°	64.5	142.2	174.5	195.3	197.2
85°	37.9	83.4	102.4	113.8	115.7
87.5°	19.0	28.4	36.0	37.9	41.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)