

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: P309647

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA125-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: P309647  
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: 24FCZ2-60HE-UNV-L82765-HRP-CA125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 4161.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 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

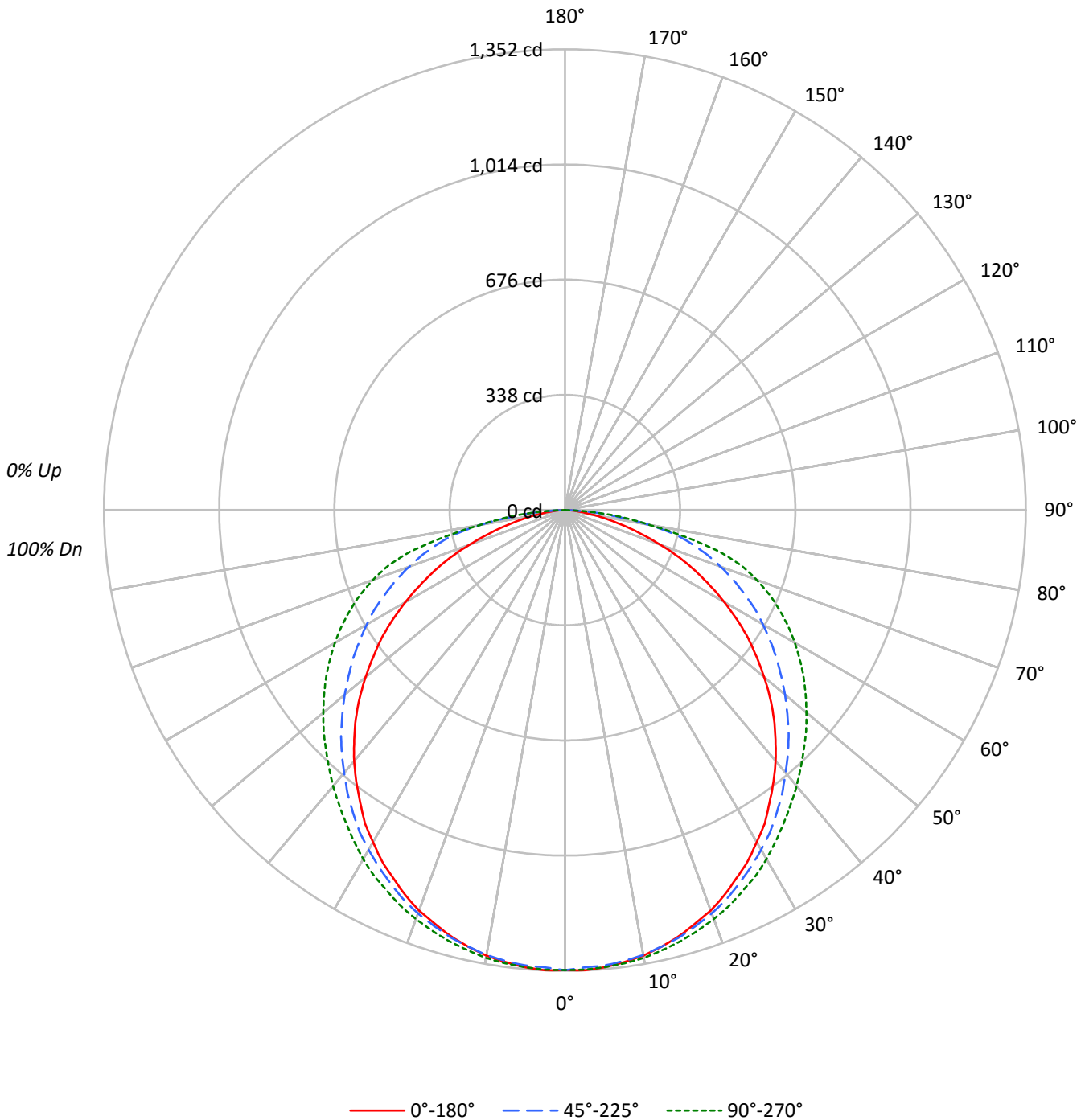
Input Watts (W): 48.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1816	1816	1816
5°	1819	1812	1819
10°	1814	1811	1823
15°	1803	1808	1825
20°	1791	1803	1828
25°	1769	1795	1831
30°	1748	1789	1838
35°	1720	1780	1840
40°	1689	1769	1857
45°	1651	1767	1886
50°	1597	1765	1936
55°	1540	1778	2006
60°	1453	1805	2095
65°	1342	1847	2213
70°	1172	1912	2357
75°	951	2010	2436
80°	702	1970	1970
85°	537	1453	1641



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.9	3.1
10°-20°	367.3	8.8
20°-30°	559.1	13.4
30°-40°	678.9	16.3
40°-50°	717.2	17.2
50°-60°	676.8	16.3
60°-70°	562.7	13.5
70°-80°	370.2	8.9
80°-90°	100.9	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°	1054.2	25.3
0°-40°	1733.1	41.7
0°-60°	3127.1	75.2
0°-90°	4161.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4161.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1350	1350	1350	1350	1350	
5°	1347	1347	1341	1347	1347	128
15°	1294	1296	1298	1310	1310	365
25°	1192	1198	1209	1230	1233	550
35°	1047	1059	1084	1111	1120	655
45°	868	885	928	974	991	668
55°	657	685	758	829	855	585
65°	422	470	580	665	695	417
75°	183	266	387	458	469	197
85°	35	77	94	104	106	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1350.0	1350.0	1350.0	1350.0	1350.0
2.5°	1351.8	1350.0	1343.1	1350.0	1350.0
5°	1346.6	1346.6	1341.3	1346.6	1346.6
7.5°	1337.8	1337.8	1334.4	1341.3	1341.3
10°	1327.4	1327.4	1325.7	1334.4	1334.4
12.5°	1311.7	1313.5	1311.7	1322.2	1322.2
15°	1294.3	1296.0	1297.8	1310.0	1310.0
17.5°	1271.7	1275.1	1278.6	1292.6	1294.3
20°	1250.7	1252.5	1259.5	1275.1	1276.9
22.5°	1222.9	1228.1	1236.8	1252.5	1257.7
25°	1191.5	1198.5	1208.9	1229.8	1233.3
27.5°	1161.9	1167.1	1181.1	1203.7	1210.7
30°	1125.3	1134.0	1151.5	1174.1	1182.8
32.5°	1090.5	1099.2	1120.1	1144.5	1151.5
35°	1046.9	1059.1	1083.5	1111.4	1120.1
37.5°	1005.1	1017.3	1046.9	1078.3	1088.7
40°	961.6	975.5	1006.9	1043.5	1057.4
42.5°	914.5	933.7	968.5	1008.6	1024.3
45°	867.5	884.9	928.5	973.8	991.2
47.5°	817.0	837.9	884.9	938.9	959.8
50°	763.0	789.1	843.1	902.3	925.0
52.5°	709.0	738.6	799.6	865.8	890.2
55°	656.7	684.6	757.8	829.2	855.3
57.5°	599.2	634.1	714.2	790.9	817.0
60°	540.0	578.3	670.7	750.8	778.7
62.5°	480.8	524.3	628.9	709.0	738.6
65°	421.6	470.3	580.1	665.4	695.1
67.5°	364.1	418.1	534.8	620.1	649.8
70°	297.9	365.8	486.0	569.6	599.2
72.5°	236.9	315.3	439.0	517.4	543.5
75°	182.9	266.5	386.7	458.1	468.6
77.5°	134.1	217.7	332.7	357.1	358.8
80°	90.6	174.2	254.3	250.8	254.3
82.5°	59.2	130.6	160.3	179.4	181.2
85°	34.8	76.6	94.1	104.5	106.3
87.5°	17.4	26.1	33.1	34.8	38.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)