

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: LUMIERE

Report Number:

Luminaire Tested: **230-MR16-12-NFL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number:  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMIERE  
Catalog Number: 230-MR16-12-NFL  
Description:  
Light Source: Q50MR16/C/NFL30°-EXK  
BARE LAMP DATA FOR 230  
Ballast/Driver: -

**Summary**

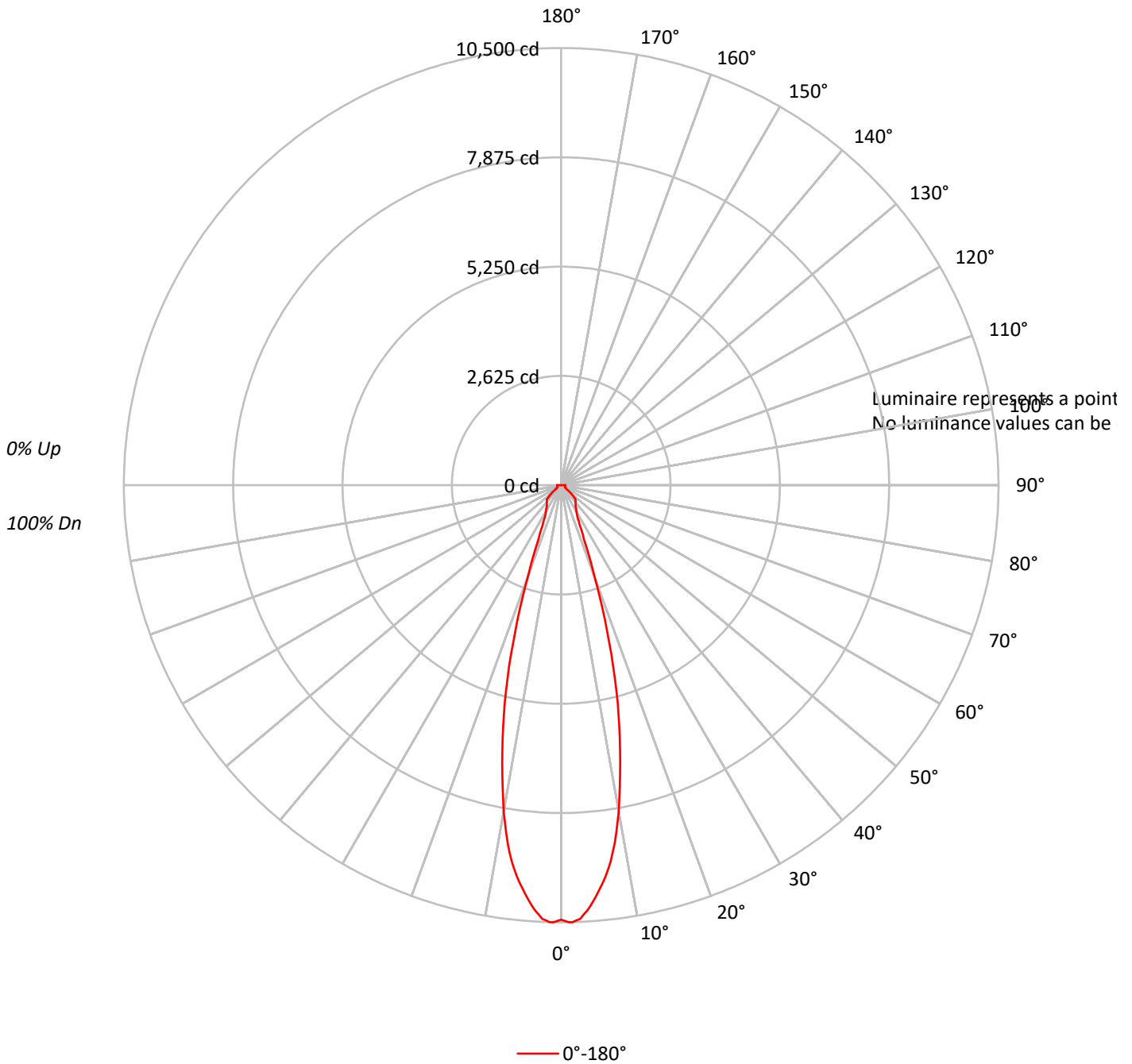
Lumens per Lamp: 955 (1 lamp)  
Luminaire Lumens: 4000.1 lumens  
Efficiency: 418.9%  
Efficacy: -  
Spacing Criteria (0/90/45): 0.5 / 0.5 / 0.48  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

Input Watts (W): 0  
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





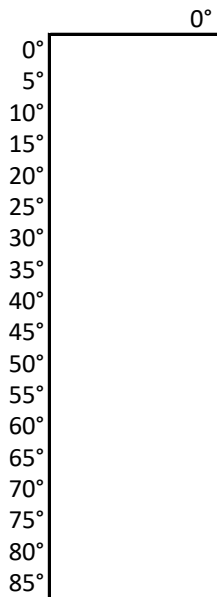
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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20												
RC	80				70				50				30				10												
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10									
RCR																													
0	499	499	499	499	487	487	487	487	465	465	465	446	446	446	427	427	427	419											
1	470	456	444	432	459	447	436	425	430	421	412	414	407	400	399	394	388	380											
2	446	423	404	388	436	415	398	384	402	387	375	389	377	367	377	368	359	352											
3	424	395	373	355	415	389	368	352	378	360	346	367	353	341	358	346	335	329											
4	404	371	347	329	396	366	344	327	357	338	323	348	332	319	341	327	315	309											
5	385	350	326	307	379	346	323	306	339	319	303	332	314	300	325	310	298	292											
6	369	332	307	289	363	329	305	288	322	302	286	317	298	285	311	295	283	277											
7	354	316	291	274	348	313	290	274	308	287	272	303	284	271	298	282	269	264											
8	340	302	278	261	335	299	276	261	295	274	260	291	272	258	287	270	257	252											
9	327	289	265	250	323	287	264	249	283	263	248	279	261	248	276	259	247	241											
10	315	277	255	239	311	276	254	239	272	252	238	269	251	238	266	249	237	232											

**AVERAGE LUMINANCE (cd/sqm):**





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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	883.8	22.1	92.5
10°-20°	1368.0	34.2	143.3
20°-30°	546.1	13.7	57.2
30°-40°	386.1	9.7	40.4
40°-50°	351.0	8.8	36.8
50°-60°	161.1	4.0	16.9
60°-70°	101.4	2.5	10.6
70°-80°	98.0	2.4	10.3
80°-90°	104.6	2.6	11.0
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	2797.9	69.9	293.0
0°-40°	3184.0	79.6	333.4
0°-60°	3696.2	92.4	387.0
0°-90°	4000.1	100.0	418.9
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	4000.1	100.0	418.9

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	10435	
5°	9869	884
15°	5137	1368
25°	1052	546
35°	601	386
45°	490	351
55°	149	161
65°	98	101
75°	94	98
85°	98	105
90°	98	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	10435.2
1.25°	10516.1
2.5°	10426.6
3.75°	10188.1
5°	9868.7
6.25°	9523.7
7.5°	9114.8
8.75°	8586.6
10°	7952.0
12.5°	6529.4
15°	5136.7
17.5°	3641.7
20°	2351.1
22.5°	1473.7
25°	1052.0
27.5°	826.3
30°	732.6
35°	600.6
40°	536.7
45°	489.8
50°	306.7
55°	149.1
60°	119.3
65°	98.0
70°	93.7
75°	93.7
80°	89.4
85°	98.0
90°	98.0

(END OF REPORT)