

# PHOENIX PRODUCTS LLC

## TEST REPORT

### SCOPE OF WORK

LED Performance Testing

### MODEL NUMBER

CF-250-WF-120-277-CW

### PROJECT NUMBER

G104357589

### REPORT NUMBER

104357589CHI-017

### ISSUE DATE

1/22/2021

### REVISED DATE

None

### TEST DATES

01/21/2021.

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**REPORT NUMBER**

104357589CHI-017

**MODEL NUMBER(s)**

CF-250-WF-120-277-CW

**REPORT RENDERED TO:**

PHOENIX PRODUCTS LLC  
8711 W PORT AVE.  
MILWAUKEE, WI, 53224  
USA

**STATEMENT OF LIMITATION**

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

**AUTHORIZATION**

The testing performed was authorized by signed quote number Qu-01080058-1.

**TEST STANDARDS**

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

In Charge of Testing:



Ian Smith  
Engineer  
Lighting Division

Reviewer:



Jeff Davis  
NA Technical Lead  
Lighting Division

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## SAMPLE INFORMATION

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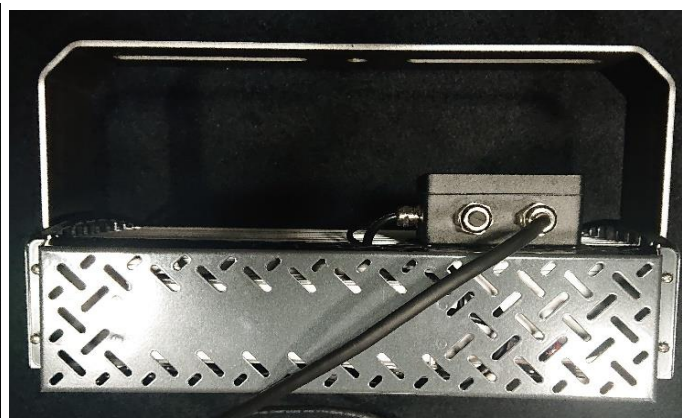
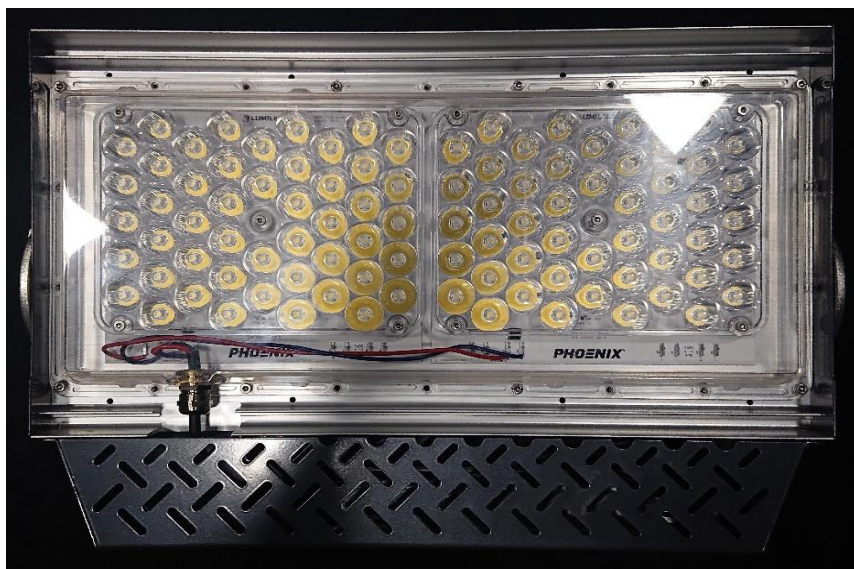
## ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	AH01112021101748	CF-250-WF-120-277-CW	Command Flood 250	Production	1/12/2021

## TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	CF-250-WF-120-277-CW	1

## SAMPLE PHOTOS - TESTED CONFIGURATIONS



## SUMMARY

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### PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	CF-250-WF-120-277-CW
Product Description:	Command Flood 250
LED Model No.:	Lumileds 5050
Driver Model No.:	Inventronics / EUM-240S350DT
Light Source:	LED

Criteria	Results
Light Output (lumens)	30825.1
Input Power (W) @ 120 (Vac)	235.83
Lumen Efficacy (lm/W)	130.7
Input Power Factor ( ) @ 120 (Vac)	0.998

## TEST METHODS

### SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

### TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position near the EUT at equal height and stabilization procedures to LM-79 were followed.

**TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING**

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	CF-250-WF-120-277-CW	NA

**PHOTOMETRIC AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)**

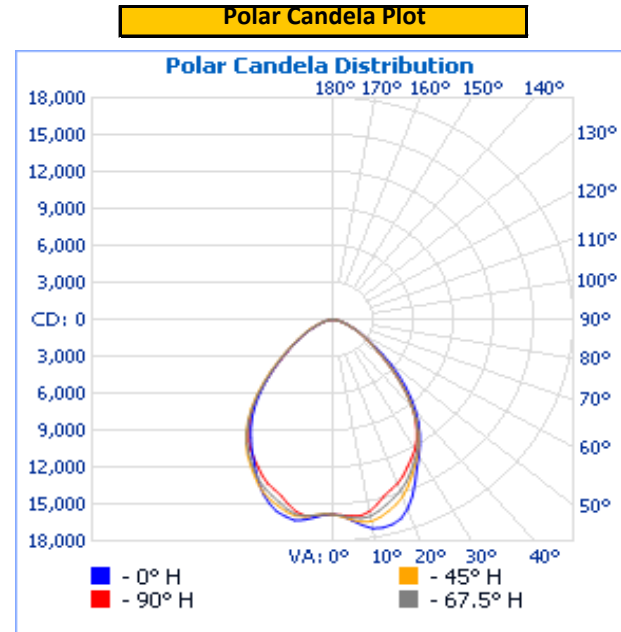
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.0	1968.6	235.83	0.998

Light Output (lm)	Lumen Efficacy (lm/W)
30825.1	130.7

**INTENSITY SUMMARY - CANDELA**

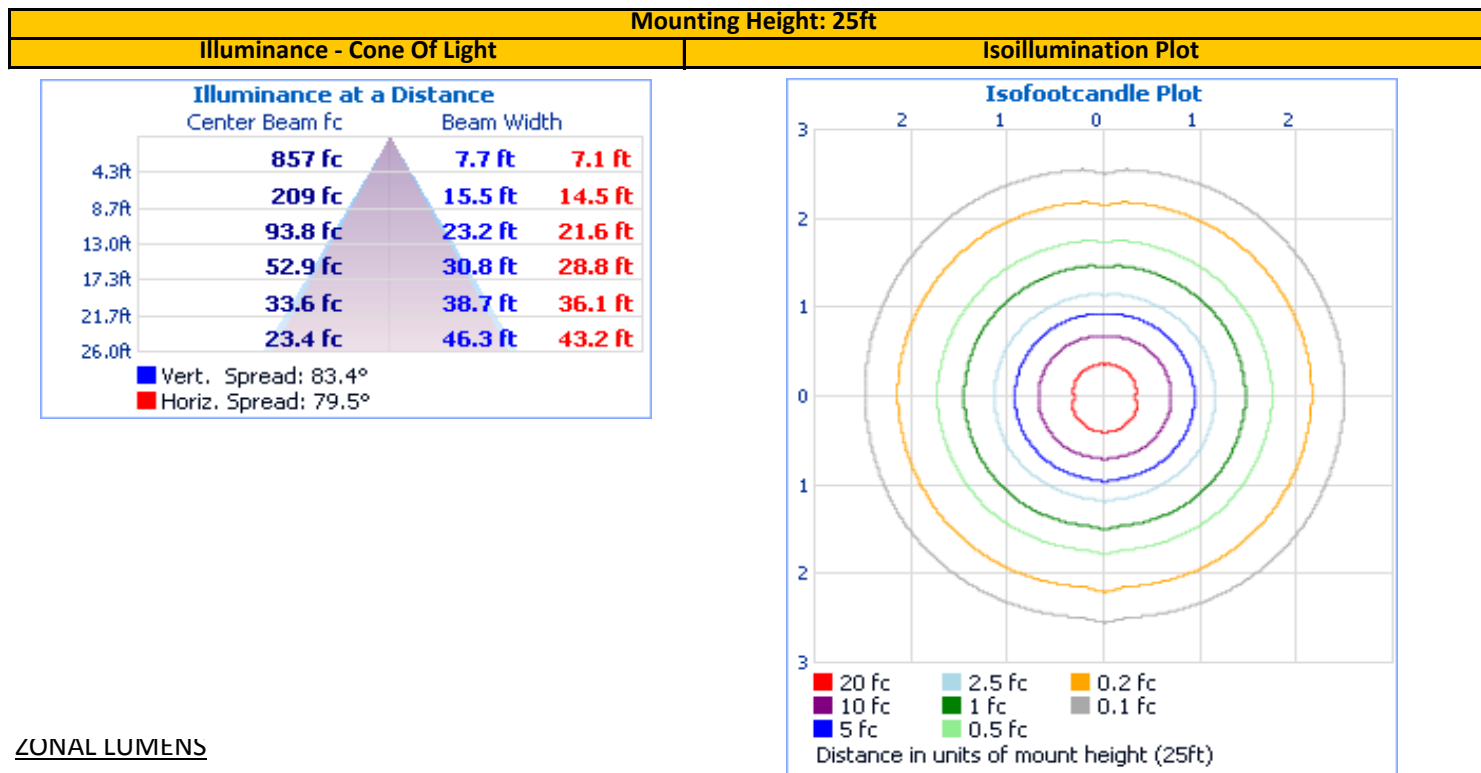
Angle	0	22.5	45	67.5	90
0	15844	15844	15844	15844	15844
5	16386	16499	16341	16154	16046
10	17249	16880	16660	16235	15851
15	17238	16490	16122	15560	14846
20	16371	15678	15314	14804	14197
25	14584	14202	14008	13733	13229
30	12889	12893	12696	12554	12270
35	11340	11280	11136	11124	10954
40	9629	9386	9244	9233	9243
45	7681	7188	7134	7069	7132
50	5714	5141	5119	5078	5058
55	3886	3676	3624	3570	3628
60	2708	2565	2604	2489	2532
65	1846	1752	1745	1660	1672
70	1095	1059	1058	1002	970
75	659	611	616	589	544
80	322	287	298	290	258
85	83	68	79	88	76
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	0	0	0	0	0
125	0	0	0	0	0
130	0	0	0	0	0
135	0	0	0	0	0
140	0	0	0	0	0
145	0	0	0	0	0
150	0	0	0	0	0
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0

Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary																																																																																																			
<table><tr><th>Zone</th><th>Lumens</th><th>Luminaire</th></tr><tr><td>0-30</td><td>12,398.6</td><td>40.2%</td></tr><tr><td>0-40</td><td>19,317.7</td><td>62.7%</td></tr><tr><td>0-60</td><td>28,250.5</td><td>91.6%</td></tr><tr><td>60-90</td><td>2,574.6</td><td>8.4%</td></tr><tr><td>70-100</td><td>813.0</td><td>2.6%</td></tr><tr><td>90-120</td><td>0.0</td><td>0.0%</td></tr><tr><td>0-90</td><td>30,825.1</td><td>100.0%</td></tr><tr><td>90-180</td><td>0.0</td><td>0.0%</td></tr><tr><td>0-180</td><td>30,825.1</td><td>100.0%</td></tr></table>			Zone	Lumens	Luminaire	0-30	12,398.6	40.2%	0-40	19,317.7	62.7%	0-60	28,250.5	91.6%	60-90	2,574.6	8.4%	70-100	813.0	2.6%	90-120	0.0	0.0%	0-90	30,825.1	100.0%	90-180	0.0	0.0%	0-180	30,825.1	100.0%	<table><tr><th>Zone</th><th>Lumens</th><th>Total</th><th>Zone</th><th>Lumens</th><th>Total</th></tr><tr><td>0-10</td><td>1552.5</td><td>5.0%</td><td>90-100</td><td>0.0</td><td>0.0%</td></tr><tr><td>10-20</td><td>4467.3</td><td>14.5%</td><td>100-110</td><td>0.0</td><td>0.0%</td></tr><tr><td>20-30</td><td>6378.7</td><td>20.7%</td><td>110-120</td><td>0.0</td><td>0.0%</td></tr><tr><td>30-40</td><td>6919.1</td><td>22.4%</td><td>120-130</td><td>0.0</td><td>0.0%</td></tr><tr><td>40-50</td><td>5574.0</td><td>18.1%</td><td>130-140</td><td>0.0</td><td>0.0%</td></tr><tr><td>50-60</td><td>3358.8</td><td>10.9%</td><td>140-150</td><td>0.0</td><td>0.0%</td></tr><tr><td>60-70</td><td>1761.6</td><td>5.7%</td><td>150-160</td><td>0.0</td><td>0.0%</td></tr><tr><td>70-80</td><td>686.4</td><td>2.2%</td><td>160-170</td><td>0.0</td><td>0.0%</td></tr><tr><td>80-90</td><td>126.6</td><td>0.4%</td><td>170-180</td><td>0.0</td><td>0.0%</td></tr></table>							Zone	Lumens	Total	Zone	Lumens	Total	0-10	1552.5	5.0%	90-100	0.0	0.0%	10-20	4467.3	14.5%	100-110	0.0	0.0%	20-30	6378.7	20.7%	110-120	0.0	0.0%	30-40	6919.1	22.4%	120-130	0.0	0.0%	40-50	5574.0	18.1%	130-140	0.0	0.0%	50-60	3358.8	10.9%	140-150	0.0	0.0%	60-70	1761.6	5.7%	150-160	0.0	0.0%	70-80	686.4	2.2%	160-170	0.0	0.0%	80-90	126.6	0.4%	170-180	0.0	0.0%
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LUM. CLASSIFICATION SYSTEM (LCS)

CS Zone		Lumens	% Lamp	% Lum
FL	(0-30)	6251.9	N.A.	20.3
FM	(30-60)	7856.7	N.A.	25.5
FH	(60-80)	1179.6	N.A.	3.8
FVH	(80-90)	56.0	N.A.	0.2
BL	(0-30)	6151.3	N.A.	19.9
BM	(30-60)	8005.0	N.A.	26.0
BH	(60-80)	1269.5	N.A.	4.1
BVH	(80-90)	70.6	N.A.	0.2
UL	(90-100)	0.0	N.A.	0.0
UH	(100-180)	0.0	N.A.	0.0
Total	-----	30840.6	N.A.	100.0
BUG Rating		B5-U0-G1		

IES Classification: Type VS  
Longitudinal Classification: Very Short

**EQUIPMENT LIST**

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
2	Omega Thermometer	DPI8-C24	146920	10/1/2020	10/1/2021
3	LSI High Speed Mirror Goniometer	6440T	146928	VBU	VBU
4	Newport Thermohygrometer	iServer	146958	9/30/2020	9/30/2021
5	Pacific AC Power Supply	118-ACX	CHI0153	VBU	VBU
6	Sorenson DC Power Supply	XHR 150-7	146922	VBU	VBU
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Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

**REVISION HISTORY**

#	Revision Date	Updated By	Reviewed By	Description of Change
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