

SONNEMAN - A WAY OF LIGHT

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

3733

PROJECT NUMBER

G104119984

REPORT NUMBER

104119984CRT-038

ISSUE DATE

6/30/2020

REVISED DATE

None

TEST DATES

6/29/2020

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

© 2017 INTERTEK



REPORT NUMBER

104119984CRT-038

MODEL NUMBER(s)

3733

REPORT RENDERED TO:

SONNEMAN - A WAY OF LIGHT
151 AIRPORT DRIVE
WAPPINGERS FALLS, NY 12590

STATEMENT OF LIMITATION

NVLAP Lab Code 100402-0. 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-01007713-2.

TEST STANDARDS

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

In Charge of Testing:



Gerald Gray
Associate Engineer
Lighting Division

Reviewer:



Ryan Siddon
Manager, Operations & Engineering
Lighting Division

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

SAMPLE INFORMATION

REPORT NO. 104119984CRT-038

ITEMS RECEIVED

| Item No. | Control No. | Model No. | Description | Type | Received |
|----------|-------------------|-----------|----------------------------|------------|-----------|
| 1 | CRT2006151018-007 | 3733 | Ilios 6" LED Surface Mount | Production | 6/15/2020 |

TESTED SAMPLE CONFIGURATIONS

| Config No. | Tested Model No. | Item Nos. Utilized |
|------------|------------------|--------------------|
| 1 | 3733 | 1 |

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

REPORT NO. 104119984CRT-038

PRODUCT INFORMATION AND SUMMARY OF DATA

| | |
|----------------------|----------------------------|
| Product Model No.: | 3733 |
| Product Description: | Ilios 6" LED Surface Mount |
| LED Model No.: | Not Provided |
| Driver Model No.: | ERP EBR010U-0200-42 |
| Light Source: | LED |

| Criteria | Results |
|-----------------------------------|---------|
| Light Output (lumens) | 659.9 |
| Input Power (W) @ 120 (Vac) | 8.1 |
| Lumen Efficacy (lm/W) | 81.3 |
| Input Power Factor () @ 120 (Vac) | 0.989 |

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

REPORT NO. 104119984CRT-038

| Test Configuration | Tested Model No. | Pass/Fail/NA |
|--------------------|------------------|--------------|
| 1 | 3733 | NA |

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

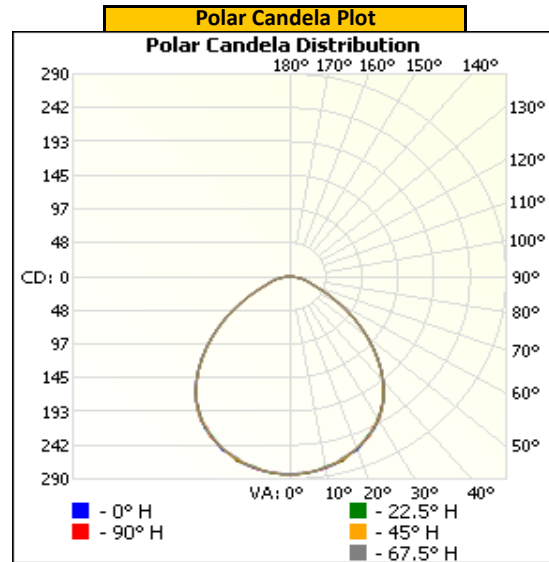
| Base Orientation | Input Voltage (Vac) | Input Current (mA) | Input Power (W) | Input Power Factor () |
|------------------|---------------------|--------------------|-----------------|------------------------|
| Up | 120.02 | 68.4 | 8.12 | 0.989 |

| Light Output (lm) | Lumen Efficacy (lm/W) |
|-------------------|-----------------------|
| 659.9 | 81.3 |

INTENSITY SUMMARY - CANDELA

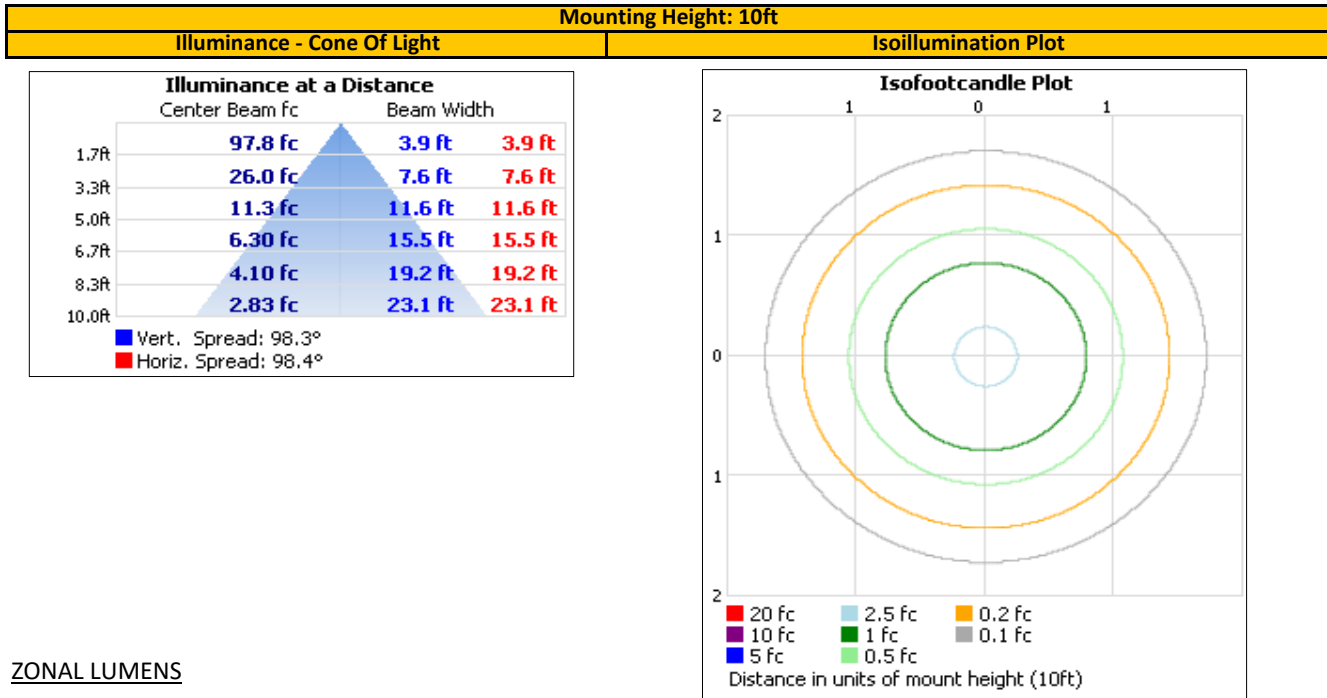
| Angle | 0 | 22.5 | 45 | 67.5 | 90 |
|-------|-----|------|-----|------|-----|
| 0 | 283 | 283 | 283 | 283 | 283 |
| 5 | 281 | 282 | 282 | 282 | 282 |
| 10 | 278 | 276 | 277 | 276 | 278 |
| 15 | 271 | 272 | 271 | 269 | 273 |
| 20 | 264 | 263 | 262 | 262 | 263 |
| 25 | 251 | 250 | 252 | 251 | 252 |
| 30 | 236 | 235 | 237 | 237 | 239 |
| 35 | 218 | 218 | 218 | 218 | 218 |
| 40 | 194 | 194 | 194 | 194 | 194 |
| 45 | 167 | 166 | 166 | 167 | 166 |
| 50 | 137 | 136 | 136 | 137 | 136 |
| 55 | 106 | 106 | 105 | 106 | 106 |
| 60 | 77 | 76 | 76 | 77 | 76 |
| 65 | 51 | 50 | 50 | 50 | 50 |
| 70 | 33 | 32 | 32 | 32 | 32 |
| 75 | 23 | 23 | 23 | 23 | 23 |
| 80 | 15 | 15 | 15 | 15 | 15 |
| 85 | 7 | 7 | 7 | 7 | 7 |
| 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



REPORT NO. 104119984CRT-038

ILLUMINANCE SUMMARY



ZONAL LUMENS

| Zonal Lumen Summary | | | | | |
|---------------------|--------|-----------|---------|--------|-------|
| Zone | Lumens | Luminaire | | | |
| 0-30 | 218.6 | 33.1% | | | |
| 0-40 | 354.2 | 53.7% | | | |
| 0-60 | 576.5 | 87.4% | | | |
| 60-90 | 83.4 | 12.6% | | | |
| 70-100 | 32.3 | 4.9% | | | |
| 90-120 | 0.0 | 0.0% | | | |
| 0-90 | 659.9 | 100.0% | | | |
| 90-180 | 0.0 | 0.0% | | | |
| 0-180 | 659.9 | 100.0% | | | |
| Zone | Lumens | Total | Zone | Lumens | Total |
| 0-10 | 26.7 | 4.1% | 90-100 | 0.0 | 0.0% |
| 10-20 | 76.5 | 11.6% | 100-110 | 0.0 | 0.0% |
| 20-30 | 115.4 | 17.5% | 110-120 | 0.0 | 0.0% |
| 30-40 | 135.7 | 20.6% | 120-130 | 0.0 | 0.0% |
| 40-50 | 127.8 | 19.4% | 130-140 | 0.0 | 0.0% |
| 50-60 | 94.5 | 14.3% | 140-150 | 0.0 | 0.0% |
| 60-70 | 51.1 | 7.7% | 150-160 | 0.0 | 0.0% |
| 70-80 | 24.7 | 3.7% | 160-170 | 0.0 | 0.0% |
| 80-90 | 7.6 | 1.2% | 170-180 | 0.0 | 0.0% |

EQUIPMENT LIST

REPORT NO. 104119984CRT-038

| # | Equipment | Model No | Control No. | Last Cal | Cal Due |
|----|-----------------------------------------|------------|-------------|-----------|-----------|
| 1 | LSI High Speed Mirror Goniometer | 6440 | --- | 6/22/2020 | 7/22/2020 |
| 2 | Elgar AC Power Supply | CW1251 | --- | VBU | VBU |
| 3 | Yokogawa Power Analyzer | WT210 | E464 | 5/11/2020 | 5/11/2021 |
| 4 | Omega Thermometer | DPi8-C24 | M263 | 2/27/2020 | 2/27/2021 |
| 5 | M-D Building Products Digital Level | Smart Tool | 307-L112 | 5/14/2020 | 5/14/2021 |
| 6 | NIST Luminous Intensity Standard Source | NBS10322 | N1427 | 2/11/2019 | 2/11/2021 |
| 7 | NIST Luminous Intensity Standard Source | NBS10332 | N1435 | 2/11/2019 | 2/11/2021 |
| 8 | NIST Luminous Intensity Standard Source | NBS10265 | N1437 | 2/11/2019 | 2/11/2021 |
| 9 | NIST Luminous Flux Standard Source | NBS10428 | N1424 | 1/3/2019 | 1/3/2021 |
| 10 | Sorenson DC Power Supply | XG 150-10 | --- | VBU | VBU |

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 |
|-----|---------------|------------|-------------|-----------------------|
| --- | None | --- | --- | --- |
| --- | --- | --- | --- | --- |
| --- | --- | --- | --- | --- |