



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L032313002



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Issue Date: 3/31/2023

Report Prepared For: Clarte Lighting
750 W Golden Grove Way, Covina, CA 91722

Model Number: PAR16 - NNSP w/ louver

Test: Photometric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2019 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2017 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77-10:2014: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Date of Tests: 3/31/23

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	4/7/23
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	1/11/2024
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	Clarte Lighting
Model Number:	PAR16 - NNSP w/ louver
Driver Model Number:	CUSTOM DRIVER

Photometric & Electrical Test Results

Total Lumens:	382.00
Efficacy:	21.33
Input Voltage (VAC/60Hz):	120.02
Input Current (Amp):	0.1500
Input Power (W):	17.91
Input Power Factor:	0.9949
Current ATHD (%):	3.3%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	1:25

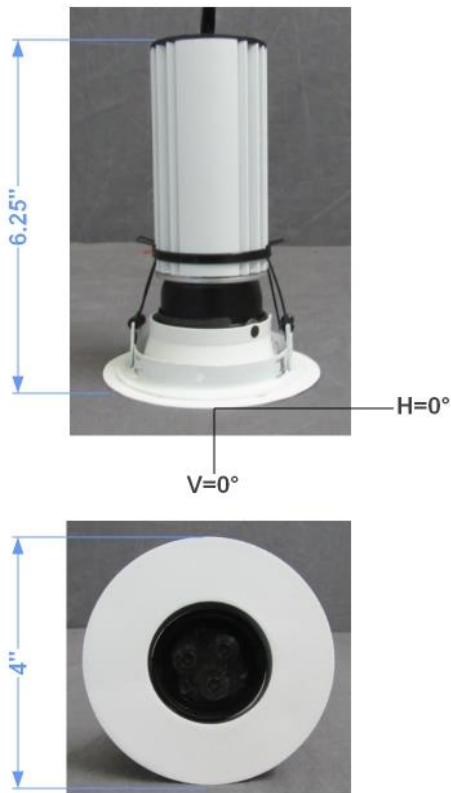


FIG. 1 LUMINAIRE

Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

The results related only to the samples as received and tested. This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government.

Report Prepared by : Kunjan Modi

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports.*



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Photometric Test Report

IES ROAD REPORT
PHOTOMETRIC FILENAME : L032313002.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L032313002
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 3/31/2023
 [MANUFAC] Clarte Lighting
 [LUMCAT] PAR16 - NNSP w/ louver
 [LUMINAIRE] PAR16 Scale Optic - Narrow Narrow Spot with Louver
 [BALLASTCAT] CUSTOM DRIVER
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

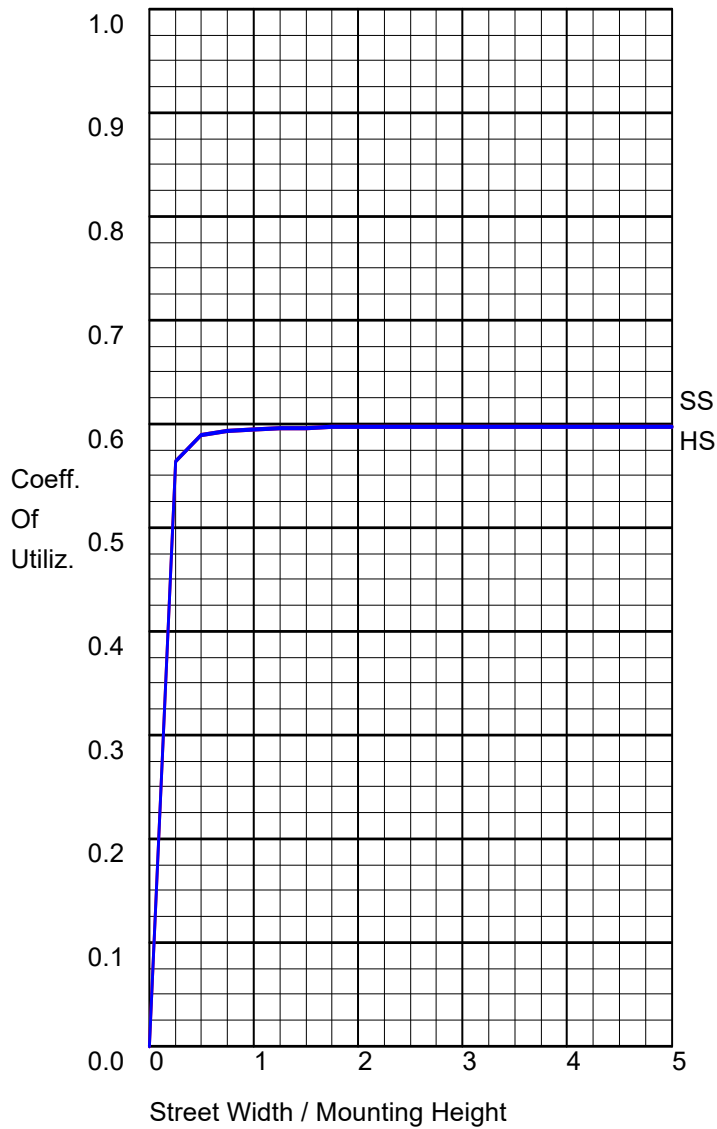
IES Classification	Type V
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	382
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	21
Total Luminaire Watts	17.91
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	10376
Maximum Candela Angle	0H 0V
Maximum Candela (<90 Degrees Vertical)	10376
Maximum Candela Angle (<90 Degrees Vertical)	0H 0V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : L032313002.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	186.9	N.A.	48.9
FM - Front-Medium (30-60)	4.0	N.A.	1.1
FH - Front-High (60-80)	0.2	N.A.	0.1
FVH - Front-Very High (80-90)	0.0	N.A.	0.0
BL - Back-Low (0-30)	186.9	N.A.	48.9
BM - Back-Medium (30-60)	4.0	N.A.	1.1
BH - Back-High (60-80)	0.2	N.A.	0.1
BVH - Back-Very High (80-90)	0.0	N.A.	0.0
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	382.2	N.A.	100.0
BUG Rating	B1-U0-G0		

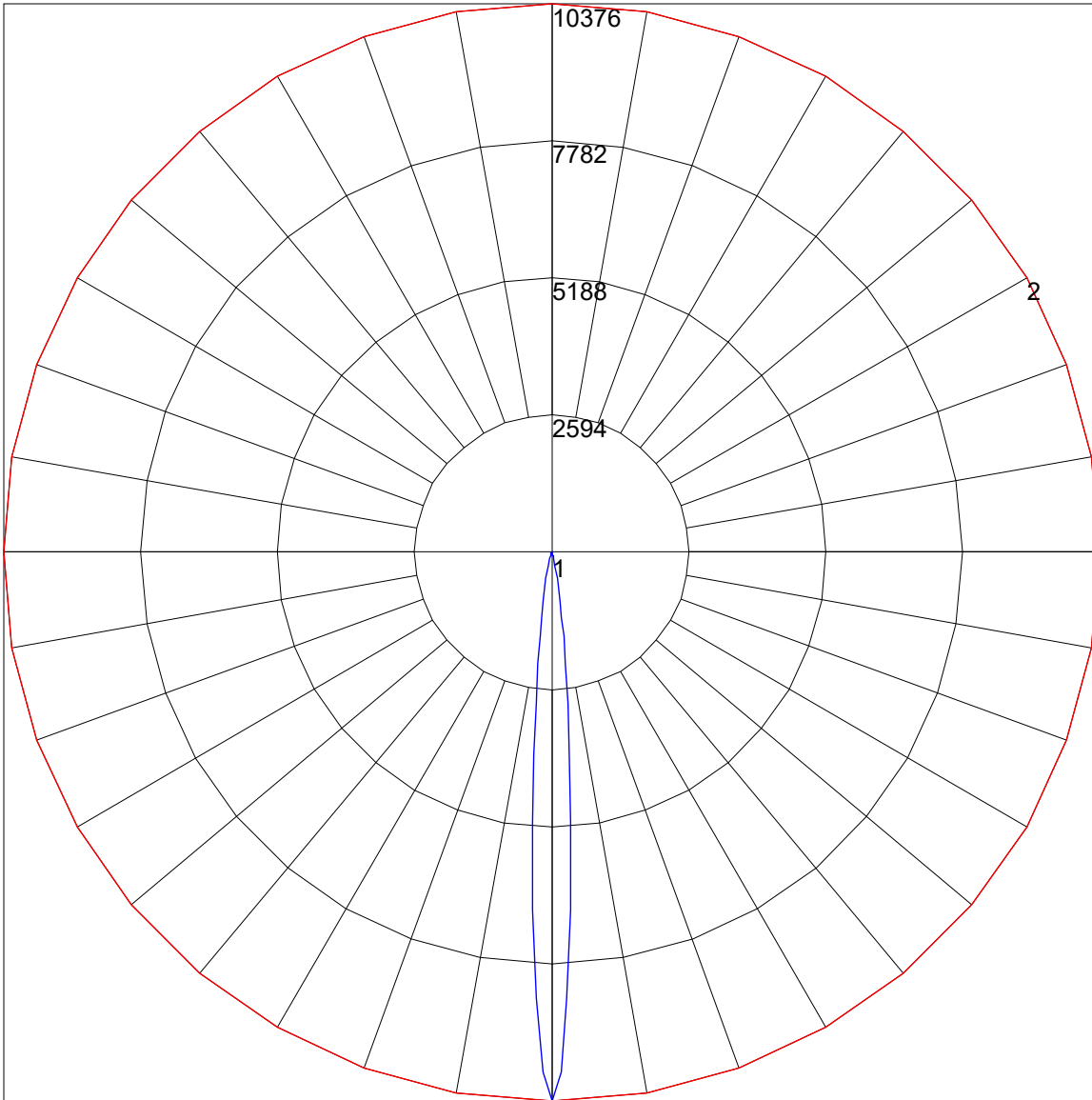
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	191.1	50.0
Downward House Side	191.1	50.0
Downward Total	382.2	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	382.2	100.0

POLAR GRAPH



Maximum Candela = 10376 Located At Horizontal Angle = 0, Vertical Angle = 0
 # 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
 # 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

Illuminance at a Distance		
	Center Beam fc	Beam Width
3.3R	953 fc	0.5 ft
6.7R	231 fc	0.9 ft
10.0R	104 fc	1.4 ft
13.3R	58.7 fc	1.8 ft
16.7R	37.2 fc	2.3 ft
20.0R	25.9 fc	2.8 ft

■ Beam Spread: 7.9°

Illuminance at a Distance		
	Center Beam fc	Beam Width
6.7R	231 fc	0.9 ft
13.3R	58.7 fc	1.8 ft
20.0R	25.9 fc	2.8 ft
26.7R	14.6 fc	3.7 ft
33.3R	9.36 fc	4.6 ft
40.0R	6.48 fc	5.5 ft

■ Beam Spread: 7.9°

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE

