

LIGHTING PLAN APPROVED

 **CITY OF BLOOMINGTON**
MINNESOTA

 **NMJ**
10/28/2024



E5.1

[illegible]

LIGHTING PLAN APPROVED

 CITY OF
BLOOMINGTON
MINNESOTA

 NMJ
10/28/2024



STINSON electric inc.
612.424.8461
755 4th St. NW
New Brighton, MN 55112

SITE
PHOTOMETRIC
(0.81)

E5.1

[illegible]

1 SITE PHOTOMETRIC(0.81)
E5.1 1/32" = 1'-0"



206 Deerwood Drive
San Marcos, TX 78666
Phone: 512-353-3890
Fax: 512-353-3891
<http://www.lasllc.net>

November 11, 2021

LSI Industries
10000 Alliance Road
Cincinnati, OH 45242

RE: Walser Toyota Exterior-LSI10423

Dear Amy:

Per your request the lighting calculations generated by LSI for the above mentioned project have been checked. This calculation was generated using AGi32 software from Lighting Analysts. Luminaire locations and mounting heights were provided by LSI and noted accordingly on the luminaire schedule. Maintained readings (LLF=.81) AND initial readings (LLF=1.0) are taken at 4 ft above grade as is typical for auto dealerships calculated by LSI. The building in the center were built as blocking objects. The calculation process was generated in direct-mode which means that no reflectances were considered.

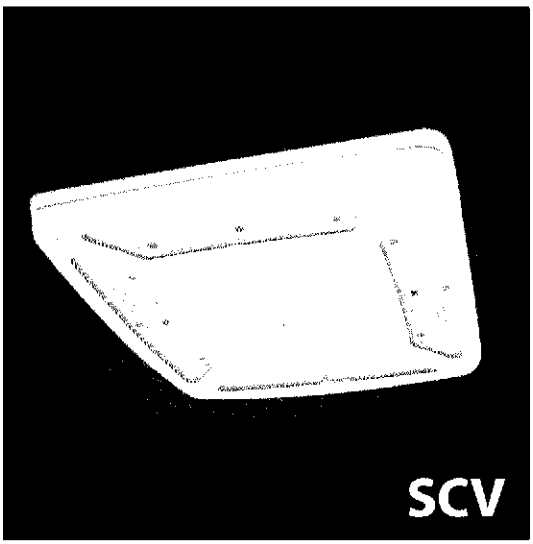
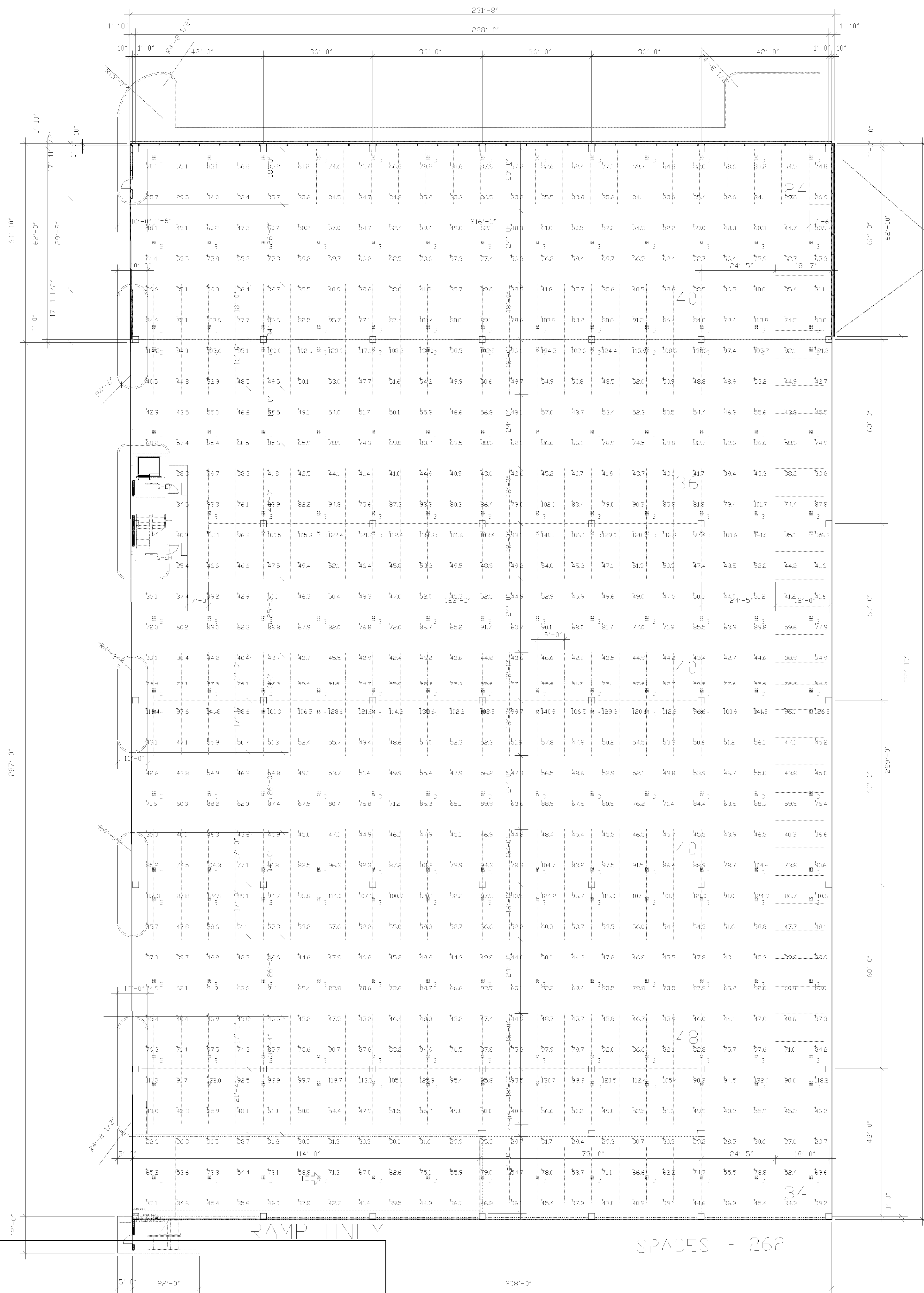
Several statistical areas were created for parking spaces within the parking lot and labeled accordingly and shown in the calculation summary.

A D sized pdf file and full-sized dwg file has been provided for the site for both the maintained and the initial LLF calculations. I reviewed this calculation as a Lighting Certified professional by NCQLP and can be found on the LC registry at www.ncqlp.org

Sincerely,

A handwritten signature in cursive script that reads 'Jennifer Jaques LC, IES'.

Jennifer Jaques LC, IES



CASE #PL2021-42

PERIMETRIC EVALUATION
NOT FOR CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent approximate positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data based on computer models and is in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaire may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as columns, curbs, landscaping, or any other architectural elements unless noted. Future non-structure notes does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final solution for ordering product.

Calculation Summary

Label	Calc. type	Units	Avg	Max	Rn	Avg/Mir	Max/Mir
GROUND FLOOR (1) - GARAGE Workplan	Illuminance	fc	55.46	147.5	22.6	290	628
2 ROWS LH PARKING	Illuminance	fc	37.96	103.8	23.7	225	404
RAMP ENTRY	Illuminance	fc	45.00	78.8	22.6	199	349

Footcandle levels at 25' above grade.
Re-Reflectances: Ceiling-80% Walls-Glass & Open Floor-20%
Room Height: 10'
Fixture M.g.H: 14.5'

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	HL	UL	App. Lum. (lumen)	App. Watts	
	215	B	SINGLE	SCV-P-LED-23-L-SC-50-LHV-DIM-WHT-ALSC-14.5' MH	1,000	1,000	1,000	23284	155
	2	S-LP	SINGLE	SW-4-80L-850-UL-IMCS	1,000	1,000	1,000	8235	52

Required – all lights required for security must be on an alternate circuit; all other exterior lighting must be illuminated no earlier than one hour before the start of business and must be extinguished no later than one hour after the end of busines (Sec. 21.301.07(c)(13)).

LIGHTING PLAN APPROVED

CITY OF BLOOMINGTON
05/27/2022

Total Project Worksheet
Total Watts = 24060

LIGHTING PROPOSAL

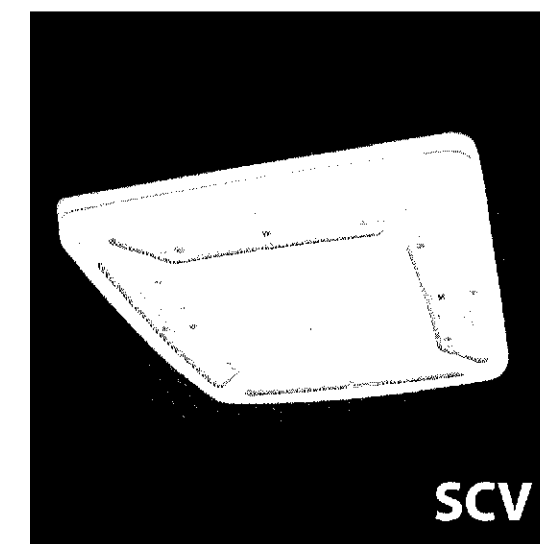
WALKER TOWNS
GROUND FLOOR PKG
BLOOMINGTON, IN

05/27/2022

SCALE: 1"=20'

LM-031500A-JOB

SHEET 1 OF 2



CASE #PL2021-42

PHOTOMETRIC EVALUATION
NLT FILM CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

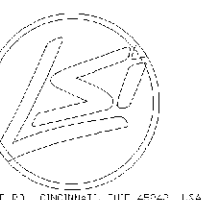
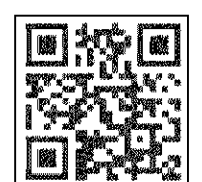
This lighting plan represents illumination levels calculated from laboratory data for use under controlled conditions in accordance with the Illuminating Engineering Society (IES) approved methods. A comparison of any non-standard luminaires may vary due to changes in electrical voltage, tolerance in lamps/LEDs or other variable field conditions. Calculations do not include obstructions such as ceilings, walls, floors, furniture or circulation turn elements - as noted. Fixture placement notes does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering products.

Calculation Summary									
Label	Description	CalcType	Units	Avg	Max	Min	Avg/ft ² /h	Max/ft ² /h	Grid Z
1ST AND FLOOR CT CARGO FLOOR		illumance	Fc	69.20	145.3	23.4	2.05	5.21	0
2 ROWS OF PARKING		illumance	Fc	63.00	115.0	25.0	2.52	4.60	
RAMP ONLY		illumance	Fc	58.42	101.4	29.6	1.97	3.43	

Footcandle levels at grade
 Reflectances: Ceiling=80% Walls=Gloss & Upen Floor=20%
 Room Height: 12'
 Fixture Mtg. Ht: 9'

Luminance Schedule									
Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LF	App. Lum. Lamps	App. Watts
	219	S	SINGL	SCV-PP-LB-23L-SC-JC-UNV-DIM-WH -ALSC-9" MH	1.000	1.000	1.000	23284	150
	2	S-FN	SING F	SW-7-8CL-850-UF-TMCS	1.000	1.000	1.000	8239	60

Total Project Watts = 34069



TESTING PROPOSAL

П-153155-100.

LIGHTING PLAN APPROVED

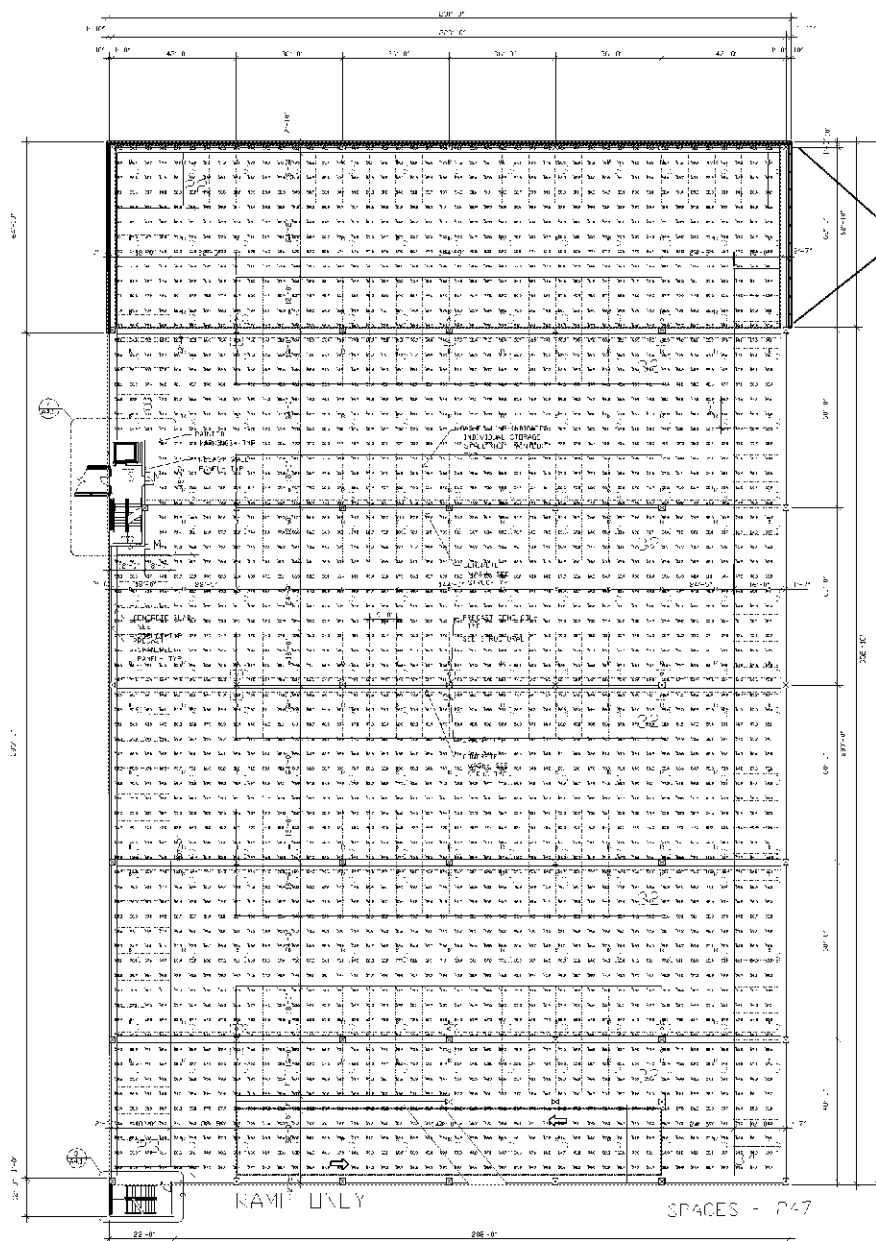
 CITY OF BLOOMINGTON, MINNESOTA NMJ 05/27/2022

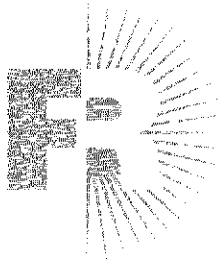
NMJ
05/27/2022

April

SCALE = 20'

2000





May 25, 2022

Ms. Amy Hotchkiss-Kerby
LSI Industries
10000 Alliance Road
Cincinnati, OH 45242

RE: Walser Toyota-Parking Garage / Bloomington, MN / LO-153155

Dear Amy:

Per your request, the lighting calculations generated by LSI for the above mentioned project have been reviewed and verified. The calculations were generated using AGI32 software from Lighting Analysts. Luminaire locations and mounting heights were provided by LSI and noted accordingly on the luminaire schedule. All calculated light levels are at grade level. The calculation process was generated in full radiosity mode and reflective surfaces were considered. Four layouts were created in total, and specifics about each are noted below.

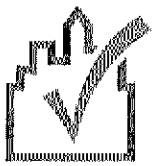
LO-153155-10C-Ground Floor was run at Initial
LO-153155-10C-1st & 2nd Fl was run at Initial
LO-153155-11B-Ground Floor was run using a 0.81 light loss
LO-153155-11C-1st & 2nd Fl was run using a 0.81 light loss factor

A "D" size pdf file and full-sized dwg file have been provided for each of the four layouts. I have reviewed the calculations as a Lighting Certified professional by NCQLP and can be found on the LC registry at www.ncqlp.org

Regards,

Bruce Frasure, LC IES





COMcheck Software Version 4.1.5.3

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
 Project Title: WASLER TOYOTA EXTERIOR
 Project Type: New Construction
 Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site:
 4401 AMERICAN BLVD
 BLOOMINGTON, MN

Owner/Agent:

Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Front Row (Sales lot street frontage)	700 ft	7	Yes	4900
Entire Lot - Front Row (Outdoor sales area/lot)	279864 ft ²	0.35	Yes	97952
Customer Pkg (Parking area)	3370 ft ²	0.06	Yes	202
All doors/Entrances (Pedestrian and vehicular entrances and exits)	229 ft of	21	Yes	4809
Total Tradable Watts (a) =				107864
Total Allowed Watts =				107864
Total Allowed Supplemental Watts (b) =				500

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
<u>Front Row (Sales lot street frontage 700 ft): Tradable Wattage</u>				
LED 1: A: MRM-LED-48L-SIL-50-70CRI: Other:	1	16	802	12832
<u>Entire Lot - Front Row (Outdoor sales area/lot 279864 ft²): Tradable Wattage</u>				
LED 6: A-IL: MRM-LED-42L-SIL-50-70CRI-IL: Other:	1	2	708	1416
LED 7: A1-G: MRM-LED-36L-SIL-5W-50-70CRI-D18: Other:	1	15	576	8640
LED 8: B: MRM-LED-48L-SIL-AM-50-70CRI: Other:	1	12	802	9624
LED 9: C: MRM-LED-48L-SIL-AM-50-70CRI: Other:	1	16	1203	19248
LED 10: E: MRM-LED-42L-SIL-FT-50-70CRI-IL: Other:	1	9	390	3510
LED 11: P1: MPH-LED-35L-SIL-2-50-70CRI: Other:	1	2	294	588
LED 12: P2: MPH-LED-35L-SIL-5W-50-70CRI: Other:	1	1	294	294
LED 13: A: MRM-LED-48L-SIL-50-70CRI: Other:	1	2	802	1604
<u>Customer Pkg (Parking area 3370 ft²): Tradable Wattage</u>				
LED 4: WS: XWS-LED-06L-FTW-50-80CRI: Other:	1	2	52	104
LED 5: P1: MPH-LED-35L-SIL-2-50-70CRI: Other:	1	4	294	1176
<u>All doors/Entrances (Pedestrian and vehicular entrances and exits 229 ft of door width): Tradable Wattage</u>				
LED 2: W: XWM-FT-LED-12L-50: Other:	1	15	102	1533
LED 3: WM: MRM-LED-24L-SIL-3-50-70CRI: Other:	1	6	176	1056
Total Tradable Proposed Watts =				61625

Exterior Lighting Assess Design 48% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

DAVID A. PHILLIPS

Name - Title

FURNITURE

Signature

11/2/2021

Date