

PLANNING DEPARTMENT USE ONLY (E-PLANS)

Obrusive Light - Compliance Report
 ID:IES MLD-2011_LZ3 - Moderately High Ambient Lighting
 Filename: 9800 MCD
 7/19/2021 5:13:31 PM

Areas noted as "FAIL" are located at roadway intersections and continuations of the campus where the lighting design is intended to integrate with the existing lighting. These higher levels are to ensure there is sufficient lighting for safety and security of pedestrians crossing roadways. Exact locations noted below.

Illuminance

Maximum Allowable Value: 0.8 Fc

Calculations Tested (61):

Calculation Label	Test Results	Max. Illum.
ObrusiveLight_III_Seg1	PASS	0.0
ObrusiveLight_III_Seg2	PASS	0.0
ObrusiveLight_III_Seg3	PASS	0.0
ObrusiveLight_III_Seg4	PASS	0.0
ObrusiveLight_III_Seg5	PASS	0.1
ObrusiveLight_III_Seg6	PASS	0.1
ObrusiveLight_III_Seg7	PASS	0.1
ObrusiveLight_III_Seg8	PASS	0.0
ObrusiveLight_III_Seg9	PASS	0.0
ObrusiveLight_III_Seg10	PASS	0.0
ObrusiveLight_III_Seg11	PASS	0.0
ObrusiveLight_III_Seg12	PASS	0.0
ObrusiveLight_III_Seg13	PASS	0.0
ObrusiveLight_III_Seg14	PASS	0.0
ObrusiveLight_III_Seg15	PASS	0.2
ObrusiveLight_III_Seg16	FAIL	1.4
ObrusiveLight_III_Seg17	PASS	0.0
ObrusiveLight_III_Seg18	PASS	0.1
ObrusiveLight_III_Seg19	PASS	0.0
ObrusiveLight_III_Seg20	PASS	0.1
ObrusiveLight_III_Seg21	PASS	0.0
ObrusiveLight_III_Seg22	PASS	0.1
ObrusiveLight_III_Seg23	PASS	0.0
ObrusiveLight_III_Seg24	PASS	0.0
ObrusiveLight_III_Seg25	PASS	0.1
ObrusiveLight_III_Seg26	PASS	0.2
ObrusiveLight_III_Seg27	PASS	0.1
ObrusiveLight_III_Seg28	PASS	0.0
ObrusiveLight_III_Seg29	PASS	0.0
ObrusiveLight_III_Seg30	PASS	0.1
ObrusiveLight_III_Seg31	PASS	0.1
ObrusiveLight_III_Seg32	PASS	0.1
ObrusiveLight_III_Seg33	PASS	0.1
ObrusiveLight_III_Seg34	PASS	0.1
ObrusiveLight_III_Seg35	PASS	0.0
ObrusiveLight_III_Seg36	PASS	0.0
ObrusiveLight_III_Seg37	PASS	0.0
ObrusiveLight_III_Seg38	PASS	0.1
ObrusiveLight_III_Seg39	PASS	0.0
ObrusiveLight_III_Seg40	PASS	0.0
ObrusiveLight_III_Seg41	PASS	0.0
ObrusiveLight_III_Seg42	PASS	0.1
ObrusiveLight_III_Seg43	PASS	0.1
ObrusiveLight_III_Seg44	PASS	0.1
ObrusiveLight_III_Seg45	PASS	0.1
ObrusiveLight_III_Seg46	PASS	0.2
ObrusiveLight_III_Seg47	PASS	0.1
ObrusiveLight_III_Seg48	PASS	0.0
ObrusiveLight_III_Seg49	PASS	0.1
ObrusiveLight_III_Seg50	PASS	0.2
ObrusiveLight_III_Seg51	PASS	0.1
ObrusiveLight_III_Seg52	FAIL	1.3

ObrusiveLight_III_Seg53	FAIL	1.4	Site boundary at Medical Center Drive entry to Bldg A
ObrusiveLight_III_Seg54	PASS	0.4	
ObrusiveLight_III_Seg55	PASS	0.1	
ObrusiveLight_III_Seg56	FAIL	1.0	Site boundary at Medical Center Drive entry to Bldg E
ObrusiveLight_III_Seg57	FAIL	1.1	Site boundary at Medical Center Drive entry to Bldg E
ObrusiveLight_III_Seg58	PASS	0.0	
ObrusiveLight_III_Seg59	PASS	0.0	
ObrusiveLight_III_Seg60	PASS	0.0	
ObrusiveLight_III_Top	PASS	0.2	

Failed Meter Locations (13):

Calculation Label	Fc	Meter Coords
ObrusiveLight_III_Seg16	0.9	231.704, -0.125, 5.5
ObrusiveLight_III_Seg16	1.2	231.704, 9.875, 5.5
ObrusiveLight_III_Seg16	1.4	231.704, 19.875, 5.5
ObrusiveLight_III_Seg52	1.0	365.169, 523.557, 5.5
ObrusiveLight_III_Seg52	1.1	351.091, 539.351, 5.5
ObrusiveLight_III_Seg52	1.3	358.13, 516.454, 5.5
ObrusiveLight_III_Seg53	0.9	330.799, 489.889, 5.5
ObrusiveLight_III_Seg53	1.2	306.921, 471.727, 5.5
ObrusiveLight_III_Seg53	1.3	322.84, 483.835, 5.5
ObrusiveLight_III_Seg53	1.4	314.881, 477.781, 5.5
ObrusiveLight_III_Seg56	1.0	121.336, 362.287, 5.5
ObrusiveLight_III_Seg57	0.9	103.907, 355.293, 5.5
ObrusiveLight_III_Seg57	1.1	113.226, 358.921, 5.5

Total Installed and Offsite Lumens

Maximum Allowable Offsite Lumens: 15 % Of Total Site Lumen Limit

WARNING: Light Loss Factor (LLF) for one or more luminaires is not = 1. Lumen calculations should be based on initial conditions.

Some fixtures are derated or dimmed to achieve specific light levels, all other light loss factors have been removed from calculation to simulate initial conditions.

Lumen Allowances:

Item	Allowance	Quantity	Total
Allowed Lumens Per Area (Sq Ft)	5	179955	899775
Allowed Base Lumens Per Site	14000	1	14000
Total Lumen Allowance			913775

Total Installed Lumens:

Calculation Label	Area Sq Ft	Total Lumen Allowance	Total Installed Lumens	Test Results
ObrusiveLight	179955	913775	172099 (18.8%)	PASS

Total Offsite Lumens:

Calculation Label	Area Sq Ft	Maximum Allowance Lumens	Total Offsite Lumens	Test Results
ObrusiveLight	913775	137066	20969 (15.3%)	PASS

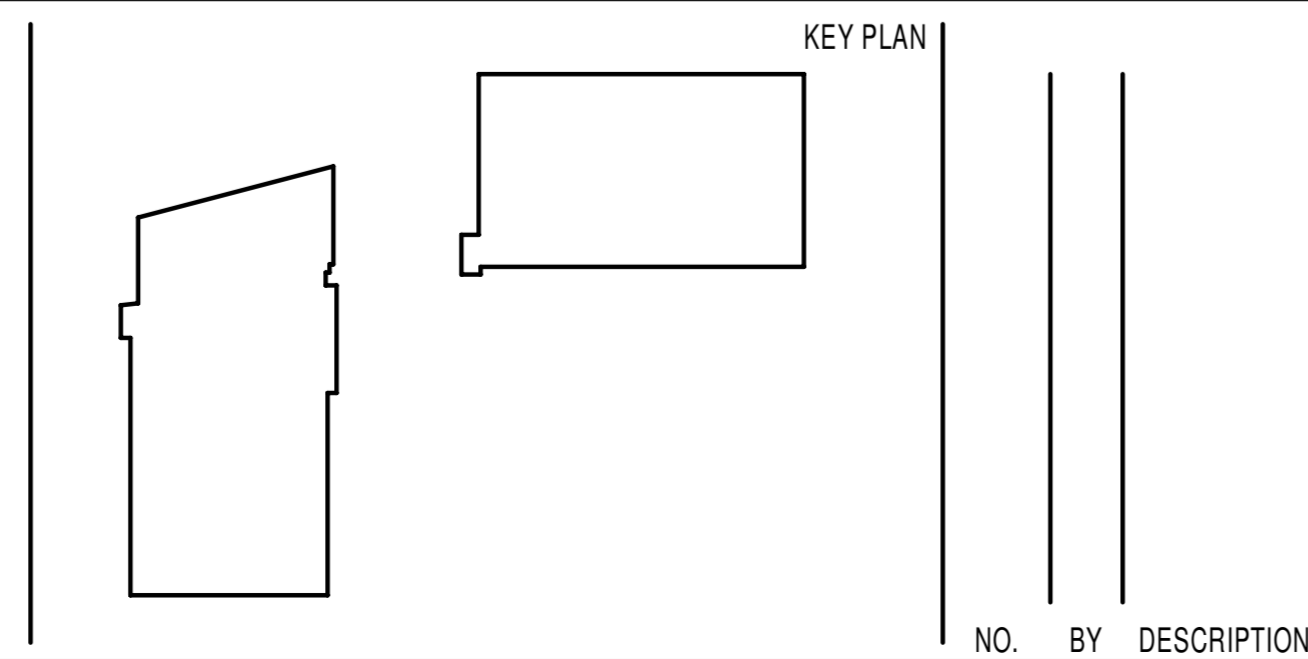
Individual Grids:

Calculation Label	Area Sq Ft	Avg. Illum.	Lumens*
ObrusiveLight_III_Seg1	769	0	8
ObrusiveLight_III_Seg2	826	0	8
ObrusiveLight_III_Seg3	720	0	10
ObrusiveLight_III_Seg4	789	0	13
ObrusiveLight_III_Seg5	761	0	20
ObrusiveLight_III_Seg6	792	0	17

ObrusiveLight_III_Seg7	2357	0	70
ObrusiveLight_III_Seg8	7810	0	65
ObrusiveLight_III_Seg9	1874	0	10
ObrusiveLight_III_Seg10	3407	0	5
ObrusiveLight_III_Seg11	2191	0	8
ObrusiveLight_III_Seg12	1049	0	4
ObrusiveLight_III_Seg13	3883	0	1
ObrusiveLight_III_Seg14	1913	0	2
ObrusiveLight_III_Seg15	28282	0	964
ObrusiveLight_III_Seg16	7417	0.2	1161
ObrusiveLight_III_Seg17	698	0	4
ObrusiveLight_III_Seg18	3334	0	46
ObrusiveLight_III_Seg19	698	0	4
ObrusiveLight_III_Seg20	1499	0	14
ObrusiveLight_III_Seg21	349	0	2
ObrusiveLight_III_Seg22	543	0	6
ObrusiveLight_III_Seg23	649	0	2
ObrusiveLight_III_Seg24	478	0	3
ObrusiveLight_III_Seg25	9432	0	48
ObrusiveLight_III_Seg26	4432	0	174
ObrusiveLight_III_Seg27	2093	0.1	88
ObrusiveLight_III_Seg28	1202	0	20
ObrusiveLight_III_Seg29	1654	0	16
ObrusiveLight_III_Seg30	3372	0	61
ObrusiveLight_III_Seg31	655	0	10
ObrusiveLight_III_Seg32	2051	0	32
ObrusiveLight_III_Seg33	1960	0	34
ObrusiveLight_III_Seg34	809	0	10
ObrusiveLight_III_Seg35	107	0	1
ObrusiveLight_III_Seg36	184	0	8
ObrusiveLight_III_Seg37	1132	0	10
ObrusiveLight_III_Seg38	1198	0	23
ObrusiveLight_III_Seg39	1152	0	8
ObrusiveLight_III_Seg40	182	0	6
ObrusiveLight_III_Seg41	80	0	1
ObrusiveLight_III_Seg42	429	0	8
ObrusiveLight_III_Seg43	1996	0	32
ObrusiveLight_III_Seg44	1442	0	27
ObrusiveLight_III_Seg45	324	0.1	48
ObrusiveLight_III_Seg46	1039	0.1	105
ObrusiveLight_III_Seg47	912	0.1	59
ObrusiveLight_III_Seg48	70	0	5
ObrusiveLight_III_Seg49	3548	0.1	329
ObrusiveLight_III_Seg50	3722	0.1	399
ObrusiveLight_III_Seg51	164	0.1	61
ObrusiveLight_III_Seg52	4639	0.2	1047
ObrusiveLight_III_Seg53	4286	0.3	1438
ObrusiveLight_III_Seg54	4203	0.1	476
ObrusiveLight_III_Seg55	4703	0.1	344
ObrusiveLight_III_Seg56	2435	0.2	350
ObrusiveLight_III_Seg57	2906	0.1	394
ObrusiveLight_III_Seg58	2716	0	54
ObrusiveLight_III_Seg59	2908	0	34
ObrusiveLight_III_Seg60	878	0	7
ObrusiveLight_III_Top	179955	0.1	12757

* Lumens calculated using individual calculation points (may not equal Area * Avg)

7/22/2021 11:27:09 AM - BIM 360://20200550-ARE-5000-MCD-Bldg E and Parking Deck/20200550_L00_CENTRAL.rvt



REVISIONS

NO.	BY	DESCRIPTION	DATE	CONSULTANTS

CIVIL SITE ENGINEERS:
 SOLITEC ENGINEERING
 2 Riverchase Place, Suite 100
 Rockville, MD 20850
 Phone: 301-881-2700

LAND PLANNERS & LANDSCAPE ARCHITECTS:
 MCK
 462 South Lakes Alley
 Columbus, OH 43215
 Phone: 614-621-2796

STRUCTURAL ENGINEERS:
 FACENT ASSOCIATES, INC.
 810 Light Street
 Baltimore, MD 21202
 Phone: 410-783-1699

MERFP ENGINEERS:
 JENNIFER ENGINEERING, INC.
 8833 D Baker Road
 Nottingham, MD 21236
 Phone: 410-670-1300

SUSTAINABILITY CONSULTANTS:
 LORAX PARTNERSHIPS, LLC
 1200 Light Street
 Baltimore, MD 21202
 Phone: 443-448-9319

PRINCIPAL
 WILLIAM A.L. GAUDREAU
 PROJECT MANAGER
 RICH WILLIAMS

810 Light Street
 Baltimore, MD 21202-3970
 Tel: 410-637-5040 Fax: 410-234-8010



Coverage ©2021 by EWINGCOLE

PROJECT NO. Project Number SCALE
 DRAWING NAME MODEL LIGHTING ORDINANCE COMPLIANCE

CERTIFIED SITE PLAN 81995045G

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Site Plan Approval No. 81995045G, including Approval Conditions, Development Program and Certified Site Plan.

Developer's Name: ARE-Maryland No.24.LLC William DePippo
 Company Contact Person

Address: 946 Clopper Road, Gaithersburg, MD 20878
 Phone: 301-947-1770

Signature: *William DePippo*

ALEXANDRIA REAL ESTATE EQUITIES

9800 MEDICAL CENTER DRIVE,
 BUILDING E & PARKING DECK

ROCKVILLE, MD 20850

DRAWN BY JB DATE 07/07/2021
 FLOOR/SECTION PHASE DRAWING NO.

EG.2