



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-L10-835-DIM-UNV-OM-OF-CS_0 DEGREE TILT_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20448.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 11-MAR-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] GEN7 V13 LED 4" SHORT HEATSINK 4" RND ADJ DOWNLIGHT @ 0 TILT

[MORE] ACRYLIC MED TIR OPTIC & 4" OPEN ASYM SEMI-SPEC TRIM

[LUMCAT] 4AR-L10-835-DIM-UNV-OM-OF-CS_0 DEGREE TILT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Industrial, Direct, Downlight

[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	946
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	78
Total Luminaire Watts	12.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.54
Spacing Criterion (90-270)	0.54
Spacing Criterion (Diagonal)	0.48
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.33 ft (Diameter)
Luminous Width (90-270)	0.33 ft (Diameter)
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	262	262	262
55	108	108	108
65	0	0	0
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0	3492.5	3492.5	3492.5	3492.5	3492.5	3492.5	3492.5	3492.5	3492.5
5	3476.0	3441.5	3437.0	3434.5	3435.0	3446.5	3443.5	3441.5	3432.5
10	3077.0	3062.0	3078.0	3064.5	3050.0	2972.5	2977.5	2986.5	2910.0
15	1834.5	1849.0	1981.5	1917.0	1877.0	1702.5	1518.5	1525.0	1425.0
20	641.5	655.0	682.0	686.5	649.5	575.0	541.5	512.5	485.0
25	270.0	279.5	291.5	294.0	287.0	241.0	215.0	207.5	185.5
30	97.5	97.5	101.5	102.0	92.5	84.0	71.5	66.0	57.0
35	17.5	16.0	17.0	16.5	16.0	15.0	13.0	13.0	13.0
40	6.5	6.0	5.5	5.5	5.5	5.5	5.0	5.0	4.5
45	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.5	1.5
50	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.5
55	0.5	0.5	0.5	0.0	0.5	1.0	0.0	1.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4AR-L10-835-DIM-UNV-OM-OF-CS_0 DEGREE TILT_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	791.65	N.A.	83.70
0-30	925.49	N.A.	97.80
0-40	943.92	N.A.	99.80
0-60	945.85	N.A.	100.00
0-80	945.85	N.A.	100.00
0-90	945.85	N.A.	100.00
10-90	631.69	N.A.	66.80
20-40	152.27	N.A.	16.10
20-50	153.91	N.A.	16.30
40-70	1.93	N.A.	0.20
60-80	0.00	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	945.85	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	314.16
10-20	477.48
20-30	133.84
30-40	18.43
40-50	1.64
50-60	0.29
60-70	0.00
70-80	0.00
80-90	0.00
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	60	60	60	60	58	58	58	58	56	56	56	53	53	53	51	51	51	50
1	58	57	56	55	56	55	55	54	53	53	52	52	51	51	50	50	49	48
2	56	54	52	51	55	53	52	51	52	51	50	50	49	49	49	48	48	47
3	54	52	50	49	53	51	49	48	50	49	47	49	48	47	48	47	46	45
4	52	50	48	46	52	49	47	46	48	47	46	47	46	45	47	45	45	44
5	51	48	46	45	50	48	46	44	47	45	44	46	45	44	45	44	43	43
6	49	46	44	43	49	46	44	43	45	44	43	45	43	42	44	43	42	41
7	48	45	43	41	48	45	43	41	44	42	41	44	42	41	43	42	41	40
8	47	44	42	40	46	43	41	40	43	41	40	42	41	40	42	41	40	39
9	46	42	40	39	45	42	40	39	42	40	39	41	40	39	41	40	39	38
10	44	41	39	38	44	41	39	38	41	39	38	40	39	38	40	39	38	37

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

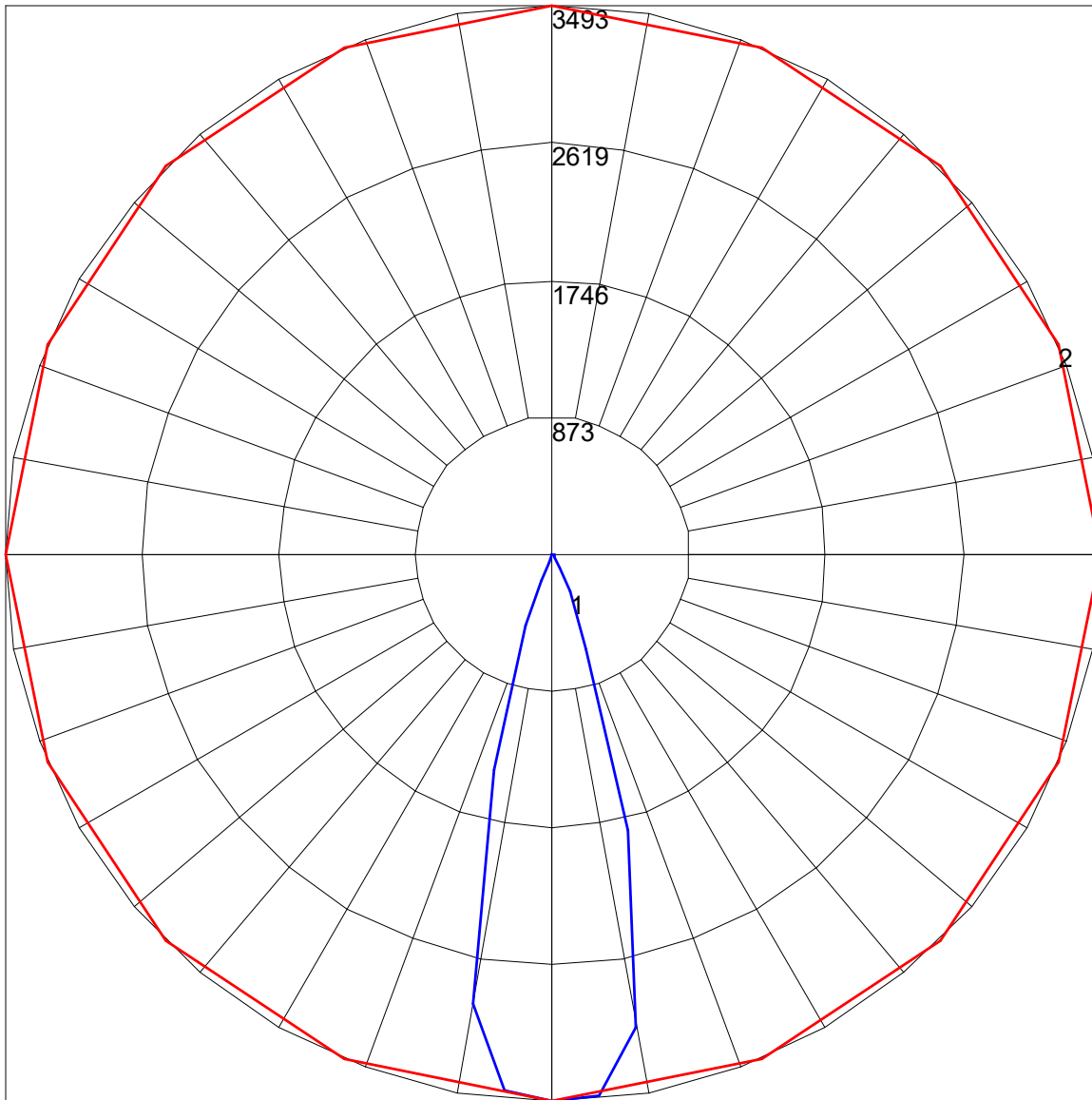
X=2H	Y=2H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	3H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

UGR Viewed Endwise

4H	2H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	3H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
8H	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	12H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
12H	4H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	6H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	8H	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

Maximum UGR = 2.2

POLAR GRAPH



Maximum Candela = 3492.5 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.)