



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-L10-830-DIM-UNV-AW-OF-WH\_25 DEGREE TILT\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20464.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 26 JUNE 2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4"SHORT RND ADJ LED DOWNLIGHT @ 25 TILT

[MORE] ACRYLIC WIDE TIR OPTIC & 4"ASYM TRIM w/SOLITE LENS

[MORE] ADVANCE # XI025C070V054DSM1

[LUMCAT] 4AR-L10-830-DIM-UNV-AW-OF-WH\_25 DEGREE TILT

[LAMPCAT] BXRE-35E2000

[\_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	476
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	39
Total Luminaire Watts	12.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.84
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	1.00
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	30159	7438	3596
55	4534	2620	3123
65	2598	2051	1915
75	2233	1340	670
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>
<b>0</b>	290.655	290.655	290.655	290.655	290.655	290.655	290.655	290.655	290.655
<b>5</b>	625.306	599.563	514.380	395.497	280.358	197.046	140.881	118.883	102.970
<b>10</b>	903.792	872.901	689.428	433.408	232.618	126.372	76.759	58.037	51.485
<b>15</b>	1090.541	1030.163	792.865	416.090	167.560	75.355	44.464	31.827	25.742
<b>20</b>	1158.875	1105.986	799.418	319.674	104.374	46.336	27.147	21.998	21.062
<b>25</b>	1146.706	1076.500	688.492	200.791	56.165	28.083	23.402	21.530	20.594
<b>30</b>	1063.862	946.852	449.790	104.374	32.763	23.870	23.402	23.870	23.870
<b>35</b>	886.006	692.704	242.446	52.889	25.742	24.338	27.147	26.210	26.210
<b>40</b>	520.932	385.668	99.225	29.019	21.998	24.338	25.274	24.338	25.274
<b>45</b>	172.708	126.840	42.592	20.126	20.594	23.402	23.402	22.466	22.466
<b>50</b>	54.293	40.252	18.254	15.913	19.190	20.126	20.594	18.254	18.254
<b>55</b>	21.062	14.977	12.169	13.573	14.509	14.977	13.573	13.573	13.573
<b>60</b>	12.169	10.297	9.829	9.829	9.829	10.297	9.361	8.425	8.425
<b>65</b>	8.893	8.425	7.021	7.489	6.553	6.085	6.085	4.680	4.212
<b>70</b>	6.085	5.617	4.680	5.148	4.212	1.872	2.340	1.404	2.340
<b>75</b>	4.680	2.808	2.808	1.404	1.404	0.936	0.000	0.468	0.936
<b>80</b>	1.404	1.404	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>85</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4AR-L10-830-DIM-UNV-AW-OF-WH\_25 DEGREE TILT\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	140.59	N.A.	29.50
0-30	291.60	N.A.	61.20
0-40	410.33	N.A.	86.20
0-60	467.60	N.A.	98.20
0-80	476.06	N.A.	100.00
0-90	476.13	N.A.	100.00
10-90	443.82	N.A.	93.20
20-40	269.74	N.A.	56.70
20-50	313.19	N.A.	65.80
40-70	63.87	N.A.	13.40
60-80	8.46	N.A.	1.80
70-80	1.87	N.A.	0.40
80-90	0.07	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	476.13	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	32.32
10-20	108.27
20-30	151.01
30-40	118.73
40-50	43.45
50-60	13.82
60-70	6.59
70-80	1.87
80-90	0.07
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	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85
3	101	94	88	84	99	92	87	83	89	85	82	87	83	80	85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60
7	80	70	63	58	78	69	63	58	68	62	58	66	61	58	65	61	57	56
8	75	65	58	54	74	64	58	54	63	58	54	62	57	53	61	57	53	52
9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	57	53	49	48
10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	49	46	45

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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	9.7	10.8	10.1	11.1	11.4	9.1	10.1	9.4	10.5	10.8
	3H	10.9	11.8	11.3	12.2	12.6	9.8	10.7	10.2	11.1	11.4
	4H	11.3	12.2	11.7	12.6	12.9	9.8	10.7	10.2	11.0	11.4
	6H	11.5	12.3	11.9	12.7	13.1	9.7	10.5	10.1	10.9	11.3
	8H	11.5	12.2	11.9	12.6	13.0	9.7	10.4	10.1	10.8	11.2
	12H	11.4	12.1	11.8	12.5	12.9	9.6	10.3	10.1	10.7	11.2

### UGR Viewed Endwise

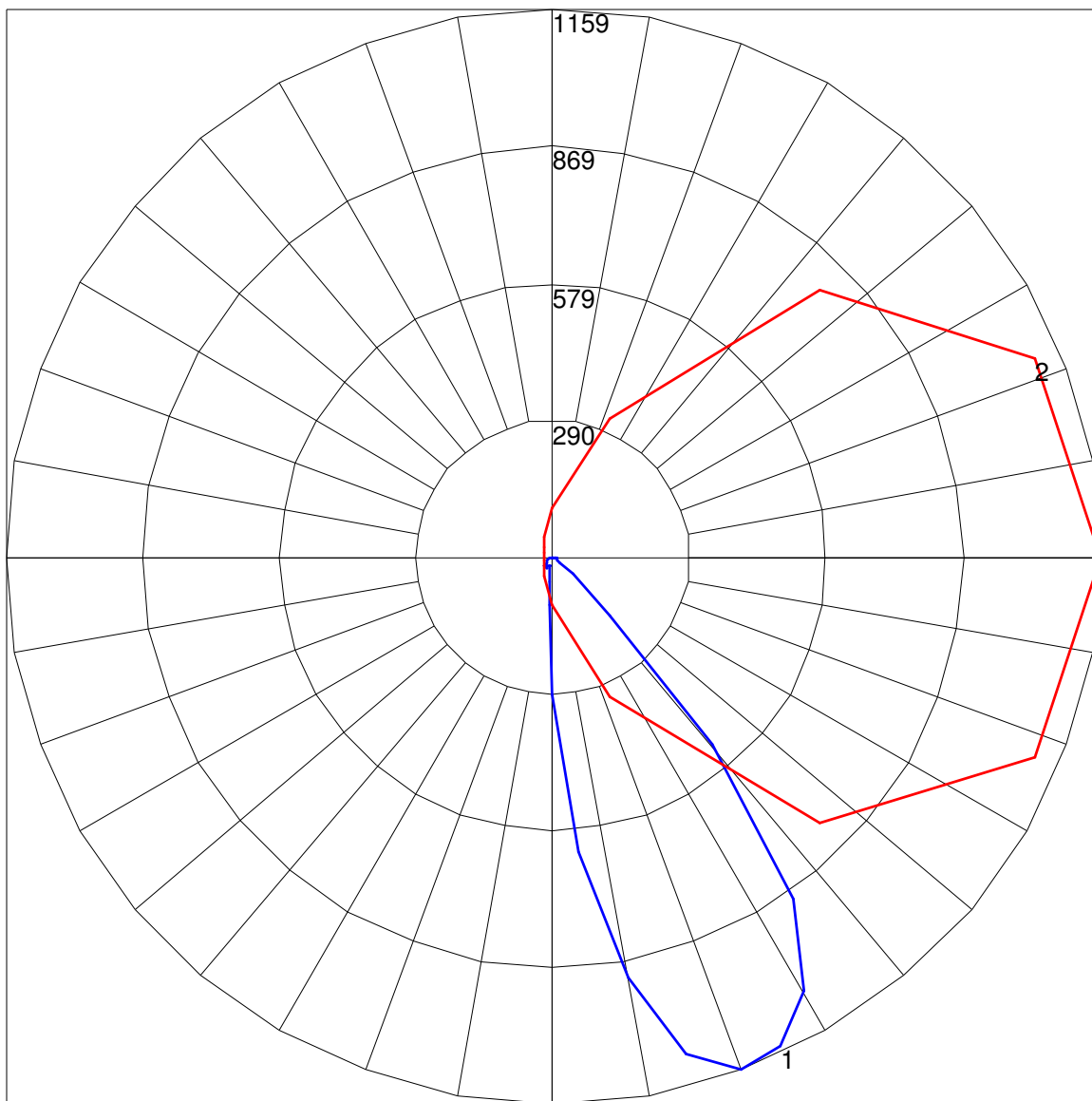
4H	2H	9.9	10.8	10.3	11.1	11.5	9.3	10.1	9.7	10.5	10.9
	3H	11.2	11.9	11.7	12.4	12.8	10.1	10.8	10.5	11.2	11.6
	4H	11.7	12.3	12.1	12.7	13.2	10.1	10.7	10.5	11.2	11.6
	6H	11.9	12.4	12.4	12.9	13.4	10.0	10.6	10.5	11.0	11.5
	8H	11.9	12.4	12.4	12.8	13.3	10.0	10.5	10.4	10.9	11.4
	12H	11.8	12.3	12.3	12.8	13.2	9.9	10.3	10.4	10.8	11.3
8H	4H	11.6	12.2	12.1	12.6	13.1	10.0	10.5	10.5	11.0	11.5
	6H	11.9	12.3	12.4	12.8	13.3	9.9	10.3	10.4	10.8	11.3
	8H	11.9	12.2	12.4	12.7	13.2	9.9	10.2	10.4	10.8	11.2
	12H	11.8	12.1	12.4	12.6	13.2	9.8	10.1	10.4	10.6	11.2
12H	4H	11.6	12.0	12.1	12.5	13.0	10.0	10.4	10.5	10.9	11.4
	6H	11.8	12.2	12.3	12.6	13.2	9.9	10.2	10.4	10.7	11.3
	8H	11.8	12.1	12.3	12.6	13.2	9.8	10.1	10.4	10.6	11.2

Maximum UGR = 13.4

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## POLAR GRAPH



Maximum Candela = 1158.875 Located At Horizontal Angle = 0, Vertical Angle = 20

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (20) (Through Max. Cd.)