



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4PS-L10-835-DIM-UNV-LW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20339.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 12-DEC-2019

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4"TALL HEATSINK 4"SQ FORMED HOUSING DOWNLIGHT

[MORE] 4" CAST SHALLOW WHITE FLUSH TRIM w/SOLITE LENS

[LUMCAT] 4PS-L10-835-DIM-UNV-LW-OF-WH

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Classroom, Commercial, Office, Direct, Downlight

[\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1029
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	96
Total Luminaire Watts	10.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.24
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	22869	35247	22081
55	16147	18133	15513
65	11932	11760	11646
75	8243	8150	8150
85	3616	3338	2782

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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>
<b>0</b>	579.00	579.00	579.00	579.00	579.00
<b>5</b>	578.75	576.75	575.75	575.50	575.50
<b>10</b>	572.00	568.75	568.25	566.25	565.50
<b>15</b>	558.00	554.25	555.25	553.50	553.50
<b>20</b>	543.75	540.00	538.00	539.75	540.75
<b>25</b>	521.75	521.00	523.00	520.50	516.25
<b>30</b>	468.50	481.25	494.50	477.75	455.25
<b>35</b>	370.75	407.75	441.00	402.25	360.25
<b>40</b>	260.75	290.75	358.00	296.25	245.00
<b>45</b>	166.75	189.00	257.00	190.50	161.00
<b>50</b>	122.75	131.25	163.75	132.50	119.50
<b>55</b>	95.50	97.75	107.25	99.75	91.75
<b>60</b>	70.00	72.00	74.00	72.00	70.25
<b>65</b>	52.00	51.00	51.25	52.75	50.75
<b>70</b>	35.50	35.50	34.00	35.75	34.75
<b>75</b>	22.00	22.25	21.75	21.50	21.75
<b>80</b>	11.75	11.75	11.50	10.75	11.50
<b>85</b>	3.25	2.50	3.00	2.50	2.50
<b>90</b>	0.00	0.00	0.00	0.00	0.00

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	211.56	N.A.	20.60
0-30	449.34	N.A.	43.70
0-40	696.75	N.A.	67.70
0-60	948.55	N.A.	92.20
0-80	1024.33	N.A.	99.60
0-90	1028.91	N.A.	100.00
10-90	974.17	N.A.	94.70
20-40	485.19	N.A.	47.20
20-50	645.84	N.A.	62.80
40-70	303.80	N.A.	29.50
60-80	75.78	N.A.	7.40
70-80	23.78	N.A.	2.30
80-90	4.58	N.A.	0.40
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	1028.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	54.75
10-20	156.81
20-30	237.78
30-40	247.41
40-50	160.64
50-60	91.15
60-70	52.00
70-80	23.78
80-90	4.58
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	77	77	77	77	76	76	76	76	72	72	72	69	69	69	66	66	66	65
1	72	70	68	66	71	69	67	65	66	64	63	64	62	61	61	60	59	58
2	67	63	60	57	66	62	59	56	60	57	55	58	56	54	56	54	53	51
3	63	57	53	49	61	56	52	49	54	51	48	53	50	47	51	49	47	45
4	58	52	47	44	57	51	47	43	50	46	43	48	45	42	47	44	42	41
5	54	47	42	39	53	47	42	39	45	41	38	44	41	38	43	40	38	36
6	51	43	38	35	50	43	38	35	42	38	34	41	37	34	40	37	34	33
7	48	40	35	32	47	39	35	31	39	34	31	38	34	31	37	33	31	30
8	45	37	32	29	44	36	32	29	36	31	28	35	31	28	34	31	28	27
9	42	34	29	26	41	34	29	26	33	29	26	32	29	26	32	28	26	25
10	40	32	27	24	39	32	27	24	31	27	24	30	27	24	30	26	24	23

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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	21.1	22.4	21.4	22.7	23.0
	3H	22.2	23.4	22.6	23.7	24.1
	4H	22.5	23.6	22.9	24.0	24.4
	6H	22.7	23.8	23.1	24.1	24.5
	8H	22.8	23.7	23.2	24.1	24.5
	12H	22.8	23.7	23.2	24.1	24.5

UGR Viewed Endwise

21.1	22.4	21.5	22.7	23.1
22.2	23.4	22.6	23.7	24.1
22.5	23.6	22.9	24.0	24.4
22.7	23.7	23.1	24.1	24.5
22.7	23.7	23.2	24.1	24.5
22.8	23.7	23.2	24.1	24.5

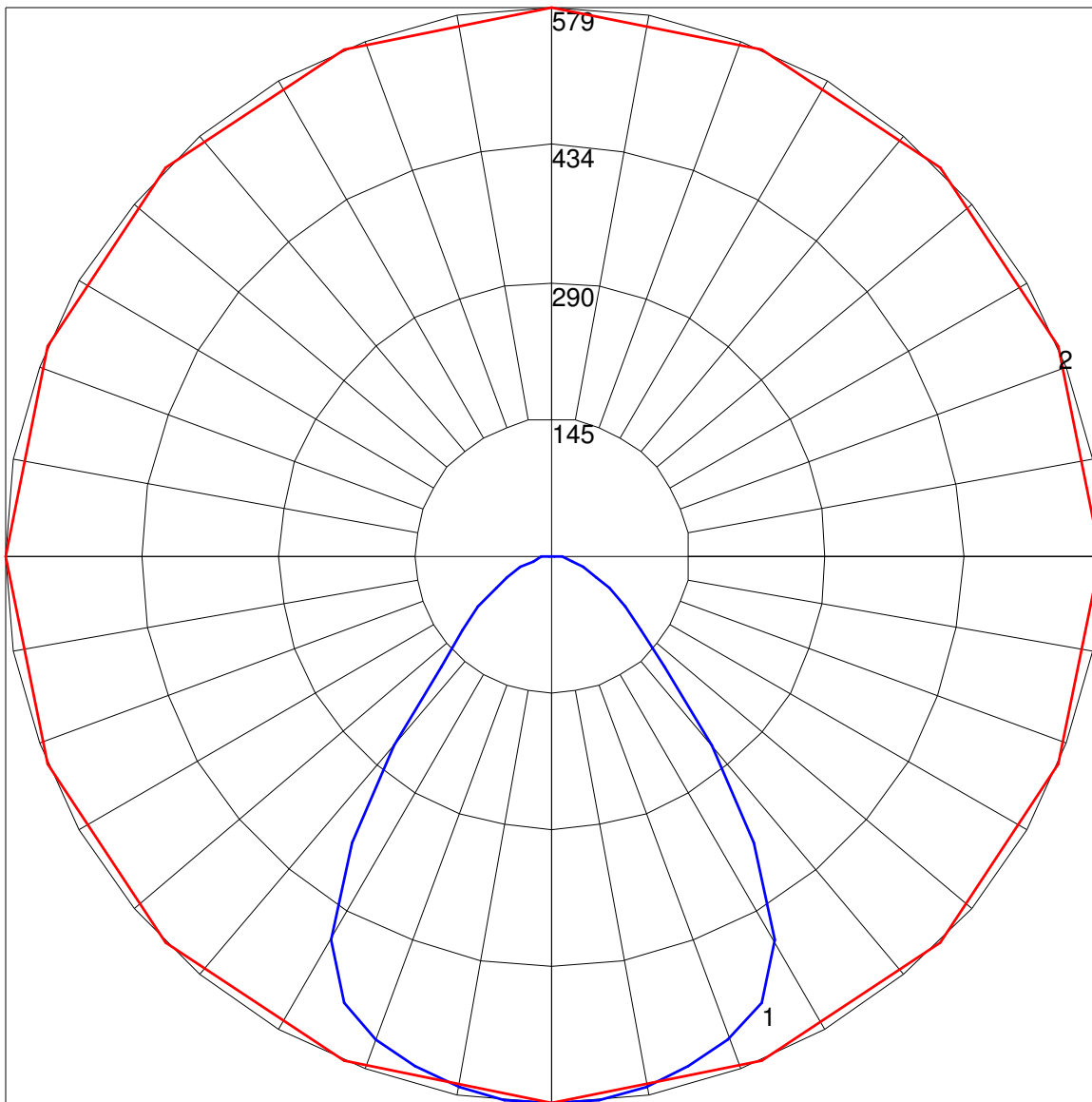
4H	2H	21.4	22.5	21.8	22.9	23.3	21.5	22.6	21.9	22.9	23.3
	3H	22.7	23.6	23.1	24.0	24.4	22.7	23.6	23.2	24.1	24.5
	4H	23.2	24.0	23.6	24.4	24.8	23.2	24.0	23.6	24.4	24.8
	6H	23.5	24.2	23.9	24.6	25.1	23.4	24.1	23.9	24.6	25.0
	8H	23.5	24.2	24.0	24.6	25.1	23.5	24.1	23.9	24.6	25.1
	12H	23.5	24.1	24.0	24.6	25.1	23.5	24.1	24.0	24.5	25.0

8H	4H	23.3	23.9	23.7	24.4	24.9	23.3	23.9	23.7	24.4	24.8
	6H	23.7	24.2	24.2	24.7	25.2	23.6	24.1	24.1	24.6	25.1
	8H	23.7	24.2	24.3	24.7	25.2	23.7	24.2	24.2	24.7	25.2
	12H	23.8	24.2	24.3	24.7	25.3	23.7	24.1	24.2	24.6	25.2

12H	4H	23.3	23.8	23.8	24.3	24.8	23.3	23.8	23.8	24.3	24.8
	6H	23.7	24.1	24.2	24.6	25.1	23.6	24.1	24.1	24.6	25.1
	8H	23.8	24.2	24.3	24.7	25.3	23.7	24.1	24.2	24.6	25.2

Maximum UGR = 25.3

POLAR GRAPH



Maximum Candela = 579 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.)