



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L15-830-DIM-UNV-LW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20316.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 27-JULY-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4"SQ CAST HOUSING LED DOWNLIGHT  
 [MORE] WHITE MIXING CHAMBER & 4"CAST WHITE FLUSH w/SOLITE LENS  
 [LUMCAT] 4DS-L15-830-DIM-UNV-LW-OF-WH  
 [LAMPCAT] BXRE-35E2000  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Classroom, Office, Downlight  
 [ \_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1481
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	17.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	1.04
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	31373	34046	31077
55	23426	24036	23304
65	16725	16228	16394
75	11356	11086	11356
85	4015	3212	4818

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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>	1101.204	1101.204	1101.204	1101.204	1101.204
<b>5</b>	1091.101	1091.823	1091.101	1091.823	1091.823
<b>10</b>	1065.123	1065.844	1069.452	1076.669	1078.112
<b>15</b>	1029.041	1036.979	1044.195	1050.690	1050.690
<b>20</b>	943.167	974.197	993.681	991.516	972.033
<b>25</b>	798.842	847.913	904.200	852.964	801.007
<b>30</b>	544.107	629.259	750.493	625.651	528.231
<b>35</b>	361.535	401.947	549.880	400.503	354.319
<b>40</b>	282.156	298.032	348.546	293.702	274.219
<b>45</b>	228.756	238.137	248.240	233.807	226.591
<b>50</b>	181.129	193.396	191.231	186.180	180.407
<b>55</b>	138.553	142.161	142.161	141.439	137.831
<b>60</b>	101.750	103.914	103.193	103.193	101.750
<b>65</b>	72.884	73.606	70.720	72.884	71.441
<b>70</b>	48.349	51.236	47.627	49.071	48.349
<b>75</b>	30.308	30.308	29.587	29.587	30.308
<b>80</b>	15.876	15.154	15.154	15.876	16.597
<b>85</b>	3.608	3.608	2.887	2.887	4.330
<b>90</b>	0.000	0.000	0.000	0.722	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	395.62	N.A.	26.70
0-30	775.74	N.A.	52.40
0-40	1054.43	N.A.	71.20
0-60	1368.46	N.A.	92.40
0-80	1474.68	N.A.	99.60
0-90	1480.79	N.A.	100.00
10-90	1377.22	N.A.	93.00
20-40	658.81	N.A.	44.50
20-50	844.94	N.A.	57.10
40-70	387.41	N.A.	26.20
60-80	106.21	N.A.	7.20
70-80	32.84	N.A.	2.20
80-90	6.11	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	1480.79	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	103.57
10-20	292.05
20-30	380.12
30-40	278.69
40-50	186.13
50-60	127.91
60-70	73.37
70-80	32.84
80-90	6.11
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	112	108	105	102	109	106	103	101	102	100	97	98	96	94	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	83	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	52	48	58	52	47	57	51	47	56	51	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39

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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	21.0	22.3	21.3	22.6	22.9	20.9	22.2	21.3	22.5	22.8
	3H	22.0	23.2	22.4	23.5	23.9	21.9	23.1	22.3	23.4	23.8
	4H	22.3	23.4	22.7	23.8	24.1	22.3	23.3	22.7	23.7	24.1
	6H	22.5	23.5	22.9	23.9	24.3	22.5	23.4	22.9	23.8	24.2
	8H	22.5	23.5	23.0	23.9	24.3	22.5	23.4	22.9	23.8	24.2
	12H	22.5	23.4	22.9	23.8	24.2	22.5	23.4	22.9	23.8	24.2

UGR Viewed Endwise

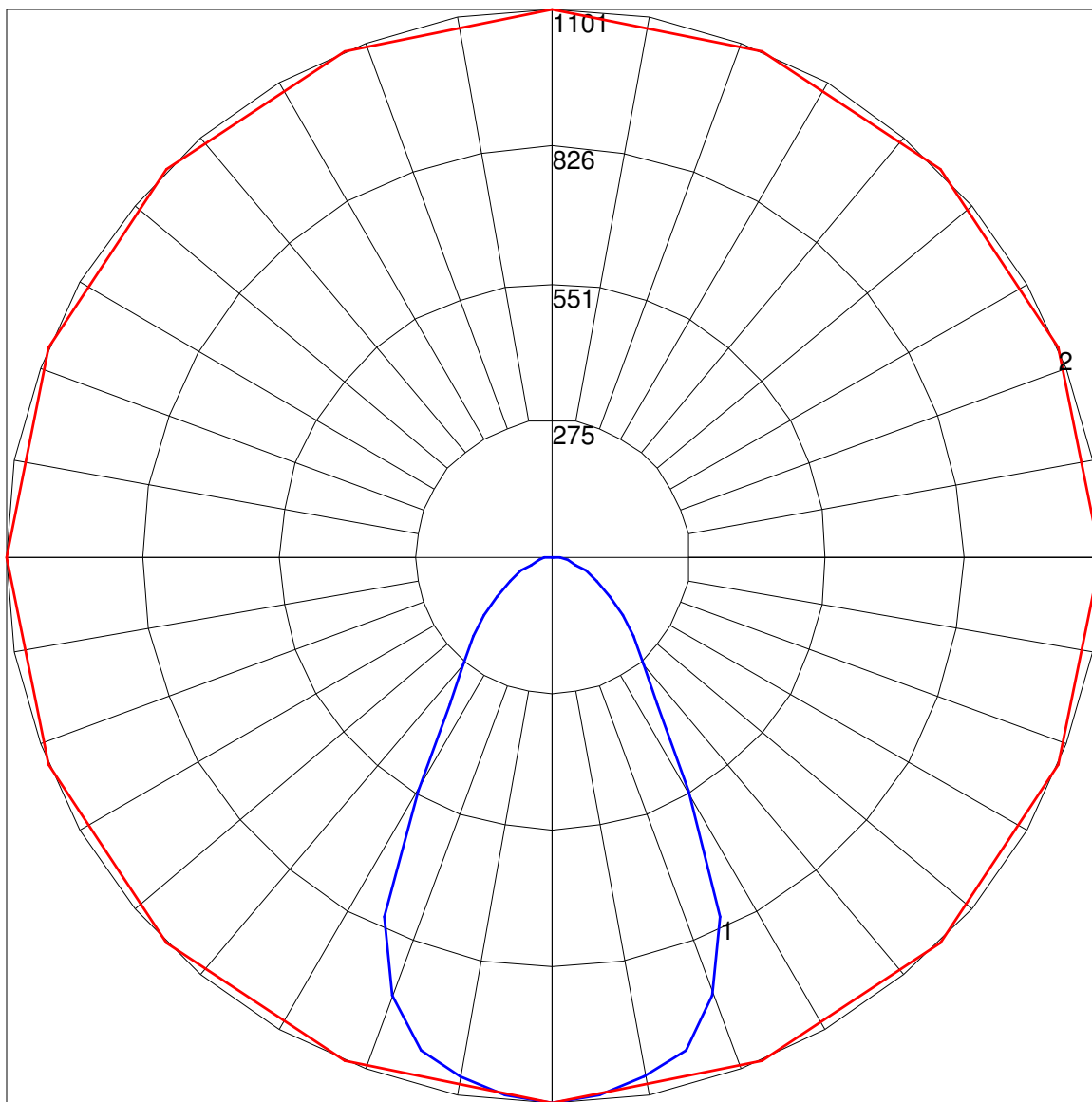
4H	2H	21.3	22.3	21.7	22.7	23.1	21.2	22.3	21.6	22.7	23.0
	3H	22.5	23.4	22.9	23.8	24.2	22.4	23.3	22.8	23.7	24.1
	4H	22.9	23.7	23.3	24.1	24.6	22.8	23.6	23.3	24.0	24.5
	6H	23.2	23.9	23.6	24.3	24.8	23.1	23.8	23.6	24.2	24.7
	8H	23.2	23.8	23.7	24.3	24.8	23.2	23.8	23.6	24.3	24.7
	12H	23.2	23.8	23.7	24.3	24.7	23.2	23.7	23.7	24.2	24.7

8H	4H	23.0	23.6	23.5	24.1	24.6	22.9	23.6	23.4	24.0	24.5
	6H	23.3	23.8	23.8	24.3	24.8	23.3	23.8	23.8	24.3	24.8
	8H	23.4	23.9	23.9	24.4	24.9	23.4	23.8	23.9	24.3	24.8
	12H	23.4	23.8	23.9	24.3	24.9	23.4	23.8	23.9	24.3	24.9

12H	4H	23.0	23.5	23.5	24.0	24.5	22.9	23.5	23.4	24.0	24.4
	6H	23.3	23.8	23.8	24.2	24.8	23.3	23.7	23.8	24.2	24.7
	8H	23.4	23.8	23.9	24.3	24.9	23.4	23.8	23.9	24.3	24.9

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 1101.204 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.)