



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 4DS-L10-835-DIM-UNV-OW-OF-CG\_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20310.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 02-26-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC -CARTHAGE, MO  
 [LUMINAIRE] GEN7 V13 LED 4"SHORT HEATSINK 4"SQ CAST HOUSING DOWLIGHT  
 [MORE] WHITE MIXING CHAMBER & 4"SEMI-SPEC TRIM w/FROST FILM  
 [LUMCAT] 4DS-L10-835-DIM-UNV-OW-OF-CG  
 [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	909
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	12
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.84
Spacing Criterion (90-270)	0.82
Spacing Criterion (Diagonal)	0.86
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	9879	12776	9944
55	2030	2679	1786
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>
<b>0</b>	1168.303	1168.303	1168.303	1168.303	1168.303
<b>5</b>	1135.170	1130.848	1124.605	1124.605	1118.843
<b>10</b>	1037.691	1024.726	1010.800	1010.320	1009.360
<b>15</b>	924.846	897.475	864.823	876.827	905.159
<b>20</b>	810.081	763.983	729.889	753.418	787.992
<b>25</b>	665.063	633.851	604.559	616.564	655.940
<b>30</b>	453.300	467.705	487.873	472.027	459.062
<b>35</b>	253.060	290.995	359.182	291.956	238.655
<b>40</b>	121.488	145.978	208.403	149.339	125.330
<b>45</b>	72.029	72.989	93.157	69.147	72.509
<b>50</b>	40.336	38.895	36.494	36.975	36.494
<b>55</b>	12.005	14.886	15.846	14.406	10.564
<b>60</b>	0.480	1.441	4.802	1.441	0.000
<b>65</b>	0.000	0.000	0.000	0.000	0.000
<b>70</b>	0.000	0.000	0.000	0.000	0.000
<b>75</b>	0.000	0.000	0.000	0.000	0.000
<b>80</b>	0.000	0.000	0.000	0.000	0.000
<b>85</b>	0.000	0.000	0.000	0.000	0.000
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	353.19	N.A.	38.90
0-30	638.20	N.A.	70.20
0-40	827.00	N.A.	91.00
0-60	908.40	N.A.	99.90
0-80	908.88	N.A.	100.00
0-90	908.88	N.A.	100.00
10-90	804.74	N.A.	88.50
20-40	473.81	N.A.	52.10
20-50	540.23	N.A.	59.40
40-70	81.88	N.A.	9.00
60-80	0.48	N.A.	0.10
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	908.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	104.14
10-20	249.05
20-30	285.02
30-40	188.79
40-50	66.42
50-60	14.98
60-70	0.48
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	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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87
3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81
4	97	90	84	80	95	89	83	80	86	82	79	84	81	78	83	79	77	75
5	92	84	78	74	91	83	78	74	81	77	73	80	75	72	78	74	72	70
6	88	79	73	69	86	78	72	68	77	72	68	75	71	67	74	70	67	65
7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61
8	79	70	64	60	78	69	64	60	68	63	59	67	62	59	66	62	59	57
9	76	66	60	56	74	65	60	56	64	59	56	64	59	56	63	58	55	54
10	72	62	57	53	71	62	56	53	61	56	52	60	56	52	60	55	52	51

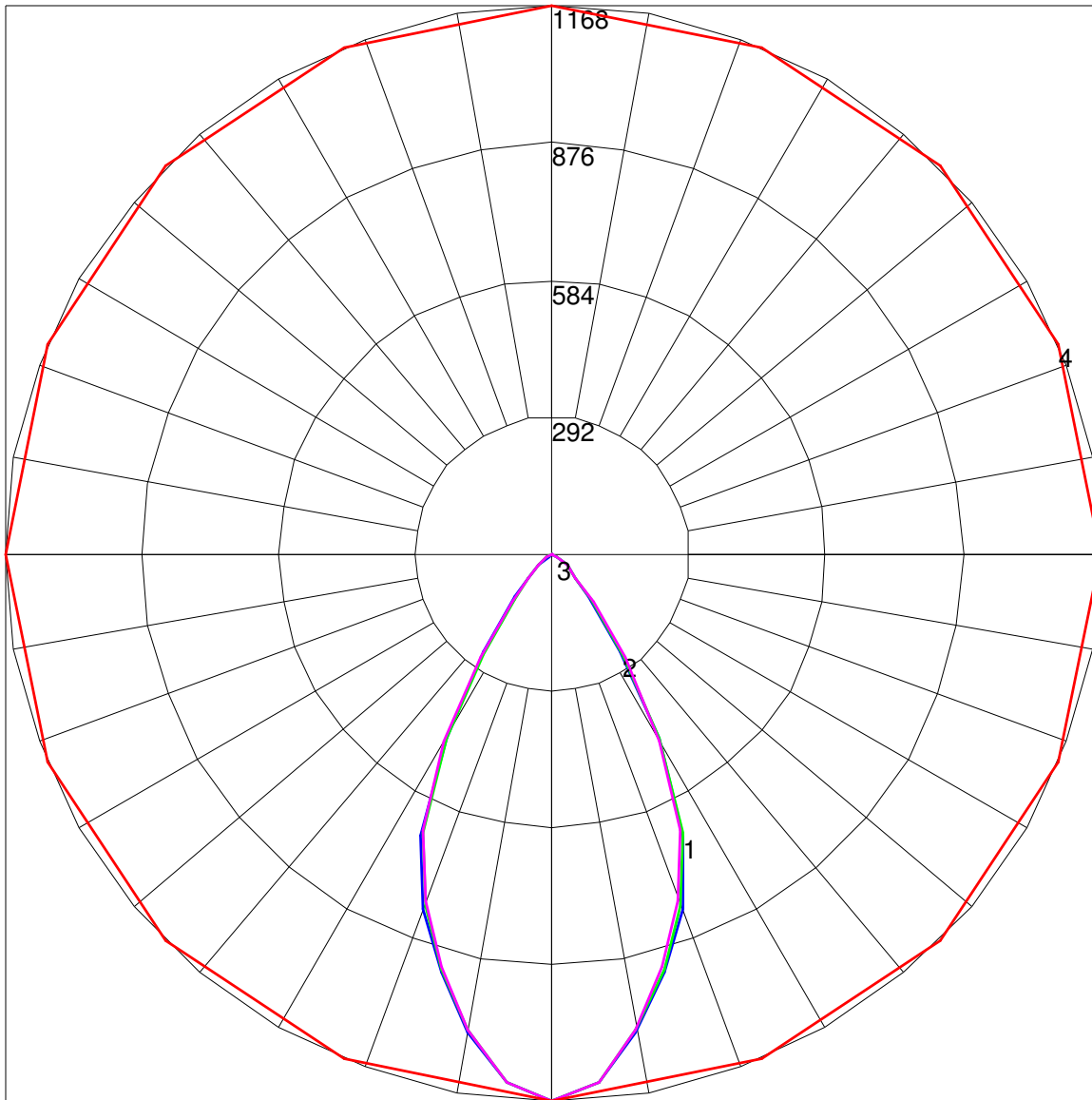
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	3.5	4.5	3.9	4.8	5.1	3.2	4.2	3.5	4.5	4.8
	3H	3.3	4.2	3.7	4.5	4.9	3.0	3.9	3.4	4.2	4.6
	4H	3.2	4.0	3.6	4.4	4.8	2.9	3.7	3.3	4.0	4.4
	6H	3.1	3.9	3.5	4.2	4.6	2.8	3.5	3.2	3.9	4.3
	8H	3.1	3.8	3.5	4.1	4.6	2.7	3.4	3.2	3.8	4.2
	12H	3.0	3.7	3.4	4.0	4.5	2.7	3.3	3.1	3.7	4.1
4H	2H	3.2	4.0	3.6	4.4	4.8	2.9	3.7	3.3	4.0	4.4
	3H	3.0	3.7	3.4	4.1	4.5	2.7	3.3	3.1	3.7	4.1
	4H	2.9	3.5	3.3	3.9	4.4	2.6	3.1	3.0	3.6	4.0
	6H	2.8	3.3	3.3	3.7	4.2	2.5	2.9	2.9	3.4	3.9
	8H	2.7	3.2	3.2	3.6	4.1	2.4	2.8	2.9	3.3	3.8
	12H	2.6	3.0	3.1	3.5	4.0	2.3	2.7	2.8	3.2	3.7
8H	4H	2.7	3.2	3.2	3.6	4.1	2.4	2.8	2.9	3.3	3.8
	6H	2.6	3.0	3.1	3.5	3.9	2.2	2.6	2.7	3.1	3.6
	8H	2.5	2.8	3.0	3.4	3.9	2.2	2.5	2.7	3.0	3.5
	12H	2.5	2.7	3.0	3.2	3.8	2.1	2.4	2.6	2.9	3.5
12H	4H	2.6	3.0	3.1	3.5	4.0	2.3	2.7	2.8	3.2	3.7
	6H	2.5	2.8	3.0	3.3	3.9	2.2	2.5	2.7	3.0	3.5
	8H	2.5	2.7	3.0	3.2	3.8	2.1	2.4	2.6	2.9	3.5

Maximum UGR = 5.1

POLAR GRAPH



Maximum Candela = 1168.303 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (5 - 185)  
# 3 - Vertical Plane Through Horizontal Angles (10 - 190)  
# 4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)