



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L15-935-DIM-UNV-LM-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20318.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 30 JULY 2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4"SQ CAST HOUSING LED DOWNLIGHT  
 [MORE] ACRYLIC MED TIR OPTIC & 4"CAST WHITE FLUSH w/SOLITE LENS  
 [MORE] ADVANCE # XI025C070V054DSM  
 [LUMCAT] 4DS-L15-935-DIM-UNV-LM-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	1366
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	78
Total Luminaire Watts	17.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.56
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.54
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	6403	6985	5987
55	4100	4306	4100
65	3478	3339	3478
75	2272	2272	2045
85	1350	674	1350

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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>	3666.312	3666.312	3666.312	3666.312	3666.312
<b>5</b>	3532.926	3520.193	3510.493	3492.303	3494.122
<b>10</b>	3032.726	3030.301	3007.261	2979.978	2952.694
<b>15</b>	2117.209	2175.414	2129.941	2103.870	2078.406
<b>20</b>	1177.440	1196.235	1217.456	1164.101	1108.928
<b>25</b>	574.775	595.996	598.421	554.767	518.995
<b>30</b>	271.017	281.324	284.356	255.253	241.915
<b>35</b>	129.749	140.056	149.150	134.599	115.198
<b>40</b>	70.937	75.788	80.638	72.150	64.268
<b>45</b>	46.685	47.898	50.929	46.685	43.654
<b>50</b>	33.347	33.953	34.559	33.347	31.528
<b>55</b>	24.252	25.465	25.465	24.858	24.252
<b>60</b>	20.008	20.008	19.402	18.795	18.795
<b>65</b>	15.158	15.158	14.551	14.551	15.158
<b>70</b>	9.701	9.701	9.701	9.701	9.095
<b>75</b>	6.063	6.063	6.063	6.063	5.457
<b>80</b>	3.638	3.638	3.032	3.638	3.032
<b>85</b>	1.213	1.819	0.606	1.213	1.213
<b>90</b>	0.000	0.000	0.000	0.606	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	895.54	N.A.	65.60
0-30	1186.25	N.A.	86.80
0-40	1281.17	N.A.	93.80
0-60	1343.12	N.A.	98.30
0-80	1364.25	N.A.	99.90
0-90	1365.88	N.A.	100.00
10-90	1047.15	N.A.	76.70
20-40	385.63	N.A.	28.20
20-50	424.59	N.A.	31.10
40-70	76.48	N.A.	5.60
60-80	21.12	N.A.	1.50
70-80	6.60	N.A.	0.50
80-90	1.63	N.A.	0.10
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	1365.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	318.72
10-20	576.81
20-30	290.72
30-40	94.91
40-50	38.95
50-60	23.00
60-70	14.53
70-80	6.60
80-90	1.63
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	112	110	108	112	110	108	106	106	104	103	102	101	100	98	98	97	95
2	110	105	102	99	107	104	100	98	100	98	96	97	95	94	95	93	92	90
3	105	100	95	92	103	98	94	91	96	92	90	93	91	88	91	89	87	86
4	101	95	90	86	99	94	89	86	91	88	85	90	86	84	88	85	83	82
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	78
6	94	86	81	78	92	85	81	77	84	80	77	83	79	76	82	78	76	75
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	75	73	72
8	87	79	74	71	86	79	74	71	78	74	71	77	73	70	76	73	70	69
9	84	76	71	68	83	76	71	68	75	71	68	74	70	68	73	70	67	66
10	81	73	69	66	80	73	69	65	72	68	65	72	68	65	71	67	65	64

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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	9.9	10.9	10.3	11.2	11.5	UGR Viewed Endwise			
	3H	11.1	11.9	11.5	12.3	12.6	9.6	10.6	10.0	10.9
	4H	11.4	12.2	11.8	12.6	12.9	10.8	11.7	11.2	12.0
	6H	11.6	12.4	12.1	12.7	13.1	11.1	11.9	11.5	12.3
	8H	11.7	12.4	12.1	12.8	13.2	11.3	12.0	11.7	12.4
	12H	11.7	12.3	12.1	12.7	13.2	11.3	12.0	11.8	12.4

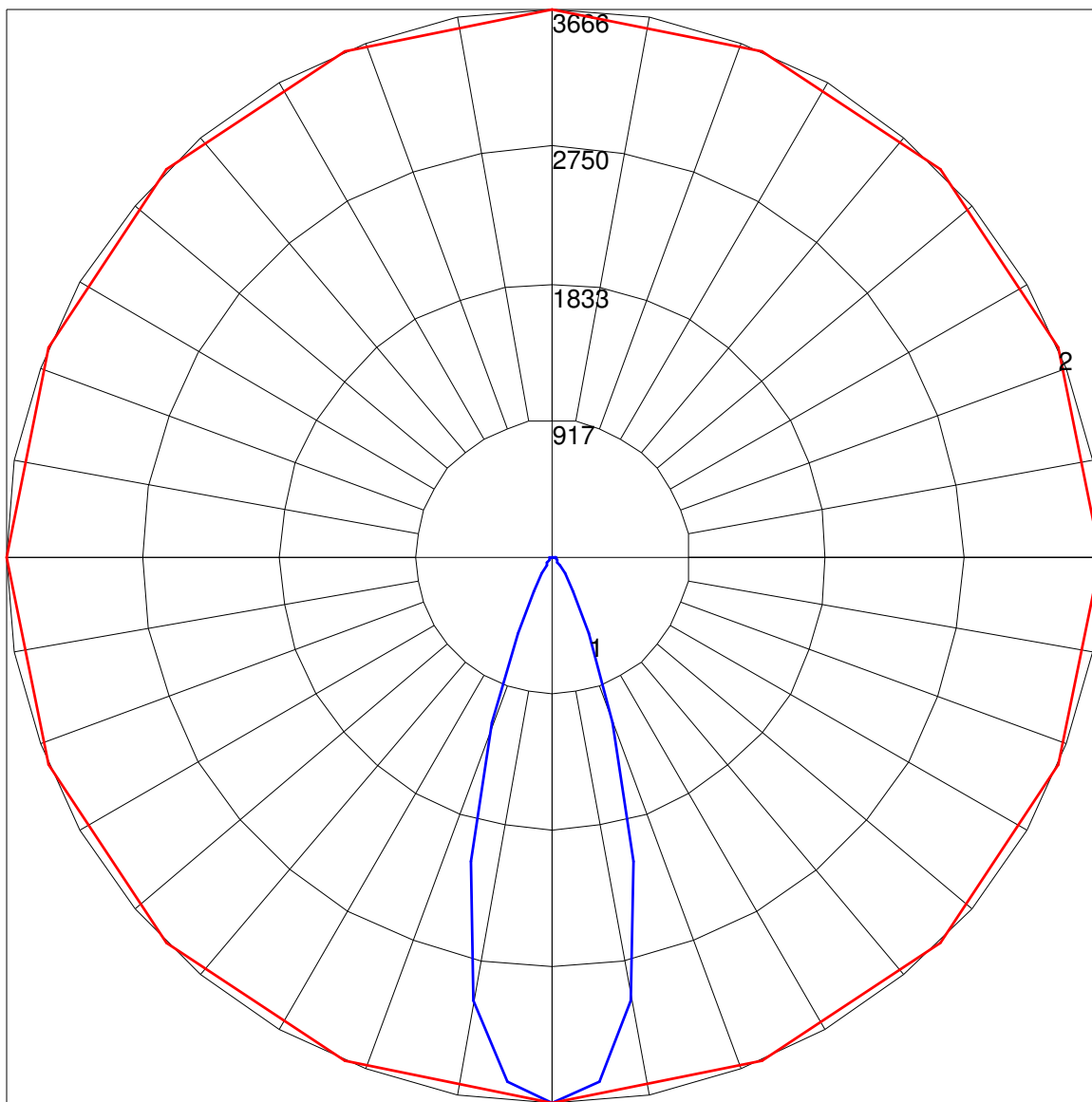
4H	2H	10.2	11.0	10.6	11.4	11.8	10.0	10.8	10.4	11.2
	3H	11.6	12.2	12.0	12.6	13.0	11.4	12.0	11.8	12.4
	4H	12.0	12.6	12.4	13.0	13.4	11.8	12.4	12.2	12.8
	6H	12.3	12.8	12.8	13.3	13.7	12.1	12.6	12.5	13.0
	8H	12.4	12.9	12.9	13.3	13.8	12.1	12.6	12.6	13.0
	12H	12.4	12.8	12.9	13.3	13.8	12.1	12.6	12.6	13.0

8H	4H	12.1	12.5	12.5	13.0	13.4	11.9	12.3	12.4	12.8
	6H	12.5	12.8	13.0	13.3	13.8	12.3	12.6	12.8	13.1
	8H	12.6	13.0	13.2	13.5	14.0	12.4	12.7	12.9	13.2
	12H	12.8	13.0	13.3	13.5	14.1	12.4	12.7	13.0	13.2

12H	4H	12.0	12.4	12.5	12.9	13.4	11.8	12.2	12.3	12.7
	6H	12.5	12.8	13.0	13.3	13.8	12.2	12.6	12.8	13.0
	8H	12.7	12.9	13.2	13.4	14.0	12.4	12.7	12.9	13.2

Maximum UGR = 14.1

POLAR GRAPH



Maximum Candela = 3666.312 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.)