



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L21-9DW-DIM-UNV-AWW-OF-WH\_3000K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20326.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 20-DEC-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4" SQ CAST HOUSING LED DOWNLIGHT

[LUMINAIRE] WHITE MIXING CHAMBER & WHITE WALLWASH w/SOLITE LENS

[LUMINAIRE] 0-10V DIMMING DRIVER

[LUMCAT] 4DS-L21-9DW-DIM-UNV-AWW-OF-WH 3000K

[LAMPCAT] LAMP CODE : BXRE-35E-2000

[\_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	1483
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	39
Total Luminaire Watts	37.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.80
Spacing Criterion (90-270)	0.86
Spacing Criterion (Diagonal)	0.90
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	39873	40263	32210
55	34905	33144	23537
65	28685	25208	13908
75	20226	14193	5677
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>	1330.533	1330.533	1330.533	1330.533	1330.533	1330.533	1330.533	1330.533	1330.533
<b>5</b>	1338.109	1335.268	1336.215	1340.003	1335.268	1328.639	1322.010	1310.646	1308.752
<b>10</b>	1300.229	1301.176	1321.063	1329.586	1319.169	1305.911	1302.123	1290.759	1286.971
<b>15</b>	1195.112	1213.105	1266.137	1274.660	1250.038	1252.879	1259.508	1227.310	1209.317
<b>20</b>	952.681	1020.865	1137.345	1092.837	1052.116	1088.102	1140.186	1081.473	1028.441
<b>25</b>	611.761	685.627	871.239	759.493	697.938	790.744	930.900	875.027	821.995
<b>30</b>	422.361	462.135	567.252	489.598	444.142	489.598	696.044	608.920	489.598
<b>35</b>	357.966	375.958	392.057	374.064	353.231	359.860	454.559	357.019	310.616
<b>40</b>	324.821	328.609	331.450	317.245	291.676	285.994	283.153	237.697	216.863
<b>45</b>	290.729	289.782	293.570	263.266	234.856	216.863	195.082	167.619	142.997
<b>50</b>	249.061	248.114	248.114	216.863	184.665	156.255	140.156	111.746	105.117
<b>55</b>	206.446	207.393	196.029	175.195	139.209	107.958	90.912	73.866	68.184
<b>60</b>	163.831	163.831	150.573	128.792	97.541	75.760	56.820	44.509	39.774
<b>65</b>	125.004	122.163	109.852	86.177	60.608	45.456	32.198	24.622	18.940
<b>70</b>	87.124	85.230	69.131	52.085	34.092	25.569	16.099	10.417	12.311
<b>75</b>	53.979	51.138	37.880	24.622	15.152	9.470	2.841	5.682	5.682
<b>80</b>	29.357	24.622	17.046	8.523	2.841	2.841	0.000	0.000	2.841
<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 : 4DS-L21-9DW-DIM-UNV-AWW-OF-WH\_3000K\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	468.55	N.A.	31.60
0-30	831.05	N.A.	56.00
0-40	1075.38	N.A.	72.50
0-60	1385.28	N.A.	93.40
0-80	1480.6	N.A.	99.80
0-90	1483.05	N.A.	100.00
10-90	1356.93	N.A.	91.50
20-40	606.84	N.A.	40.90
20-50	789.50	N.A.	53.20
40-70	379.95	N.A.	25.60
60-80	95.32	N.A.	6.40
70-80	25.27	N.A.	1.70
80-90	2.44	N.A.	0.20
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	1483.05	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	126.12
10-20	342.42
20-30	362.51
30-40	244.33
40-50	182.67
50-60	127.23
60-70	70.05
70-80	25.27
80-90	2.44
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	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81
3	98	90	84	80	96	89	83	79	86	82	78	84	80	76	81	78	75	73
4	92	83	76	71	90	82	76	71	80	74	70	77	73	69	76	72	68	67
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	62	61
6	82	71	64	59	80	70	64	59	69	63	58	67	62	58	66	61	57	56
7	77	66	59	54	75	65	59	54	64	58	54	63	57	53	62	57	53	52
8	73	62	55	50	71	61	55	50	60	54	50	59	54	50	58	53	49	48
9	69	58	51	47	68	57	51	47	56	51	46	55	50	46	55	50	46	45
10	65	55	48	44	64	54	48	44	53	47	43	52	47	43	52	47	43	42

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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

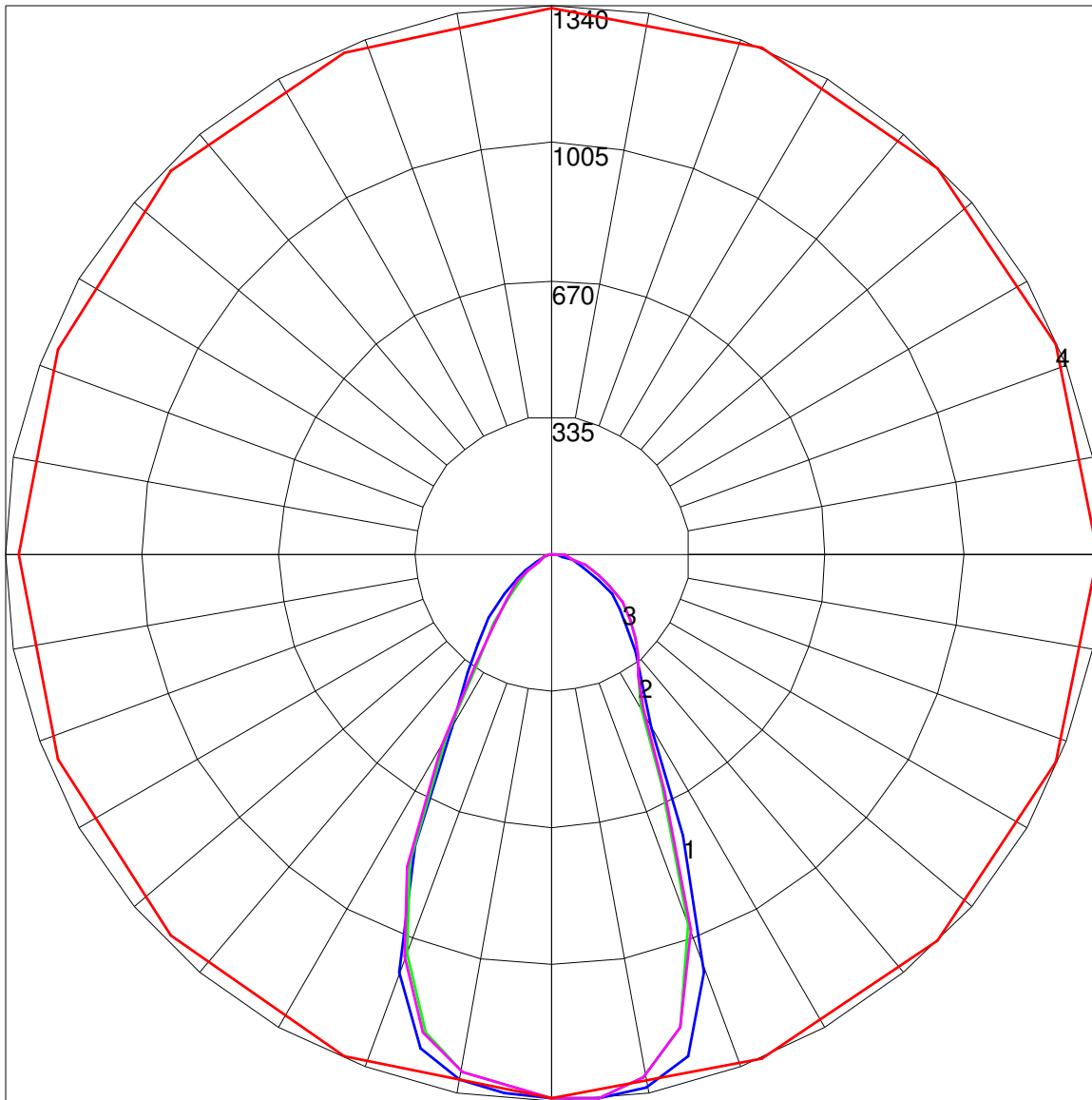
X=2H	Y=2H	23.9	25.2	24.2	25.5	25.8	21.0	22.3	21.4	22.6	22.9
	3H	25.2	26.3	25.6	26.7	27.0	21.7	22.8	22.1	23.1	23.5
	4H	25.6	26.7	26.0	27.0	27.4	21.8	22.8	22.2	23.2	23.5
	6H	25.8	26.8	26.3	27.2	27.6	21.7	22.7	22.1	23.0	23.4
	8H	25.9	26.8	26.3	27.2	27.6	21.7	22.6	22.1	23.0	23.4
	12H	25.8	26.7	26.3	27.1	27.5	21.6	22.5	22.1	22.9	23.3

### UGR Viewed Endwise

4H	2H	24.2	25.3	24.6	25.6	26.0	21.5	22.5	21.9	22.9	23.3
	3H	25.7	26.5	26.1	26.9	27.4	22.3	23.1	22.7	23.5	23.9
	4H	26.2	26.9	26.6	27.4	27.8	22.4	23.1	22.8	23.5	24.0
	6H	26.5	27.2	27.0	27.6	28.1	22.4	23.0	22.8	23.5	23.9
	8H	26.5	27.1	27.0	27.6	28.1	22.3	22.9	22.8	23.4	23.8
	12H	26.5	27.0	27.0	27.5	28.0	22.2	22.8	22.7	23.3	23.7
8H	4H	26.2	26.8	26.6	27.2	27.7	22.5	23.1	22.9	23.5	24.0
	6H	26.5	27.0	27.0	27.5	28.0	22.5	23.0	23.0	23.5	23.9
	8H	26.6	27.1	27.1	27.6	28.1	22.4	22.9	23.0	23.4	23.9
	12H	26.6	27.0	27.1	27.5	28.0	22.4	22.8	22.9	23.3	23.8
12H	4H	26.1	26.7	26.6	27.2	27.6	22.4	23.0	22.9	23.5	23.9
	6H	26.5	27.0	27.0	27.4	28.0	22.5	22.9	23.0	23.4	23.9
	8H	26.6	27.0	27.1	27.5	28.0	22.4	22.8	22.9	23.3	23.9

Maximum UGR = 28.1

POLAR GRAPH



Maximum Candela = 1340.003 Located At Horizontal Angle = 67.5, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (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 (5) (Through Max. Cd.)