



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L21-9DW-DIM-UNV-LW-OF-WH_3000K_.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] 20-DEC-2023
 [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
 [MORE] 0-10V DIMMING DRIVER
 [LUMCAT] 4DS-L21-9DW-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	1956
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	52
Total Luminaire Watts	37.7
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	41442	44972	41050
55	30944	31750	30783
65	22092	21436	21655
75	15001	14644	15001
85	5303	4243	6364

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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>
0	1454.608	1454.608	1454.608	1454.608	1454.608
5	1441.263	1442.216	1441.263	1442.216	1442.216
10	1406.947	1407.901	1412.667	1422.199	1424.105
15	1359.287	1369.772	1379.304	1387.883	1387.883
20	1245.854	1286.842	1312.579	1309.719	1283.982
25	1055.211	1120.029	1194.380	1126.702	1058.070
30	718.725	831.205	991.345	826.439	697.754
35	477.561	530.942	726.351	529.035	468.029
40	372.708	393.678	460.404	387.959	362.222
45	302.170	314.561	327.906	308.842	299.310
50	239.257	255.462	252.602	245.930	238.304
55	183.018	187.784	187.784	186.830	182.064
60	134.404	137.263	136.310	136.310	134.404
65	96.275	97.228	93.415	96.275	94.368
70	63.865	67.678	62.912	64.819	63.865
75	40.035	40.035	39.082	39.082	40.035
80	20.971	20.018	20.018	20.971	21.924
85	4.766	4.766	3.813	3.813	5.719
90	0.000	0.000	0.000	0.953	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4DS-L21-9DW-DIM-UNV-LW-OF-WH_3000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	522.58	N.A.	26.70
0-30	1024.69	N.A.	52.40
0-40	1392.82	N.A.	71.20
0-60	1807.64	N.A.	92.40
0-80	1947.94	N.A.	99.60
0-90	1956.01	N.A.	100.00
10-90	1819.2	N.A.	93.00
20-40	870.24	N.A.	44.50
20-50	1116.1	N.A.	57.10
40-70	511.74	N.A.	26.20
60-80	140.30	N.A.	7.20
70-80	43.38	N.A.	2.20
80-90	8.07	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	1956.01	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	136.81
10-20	385.77
20-30	502.11
30-40	368.12
40-50	245.86
50-60	168.96
60-70	96.92
70-80	43.38
80-90	8.07
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

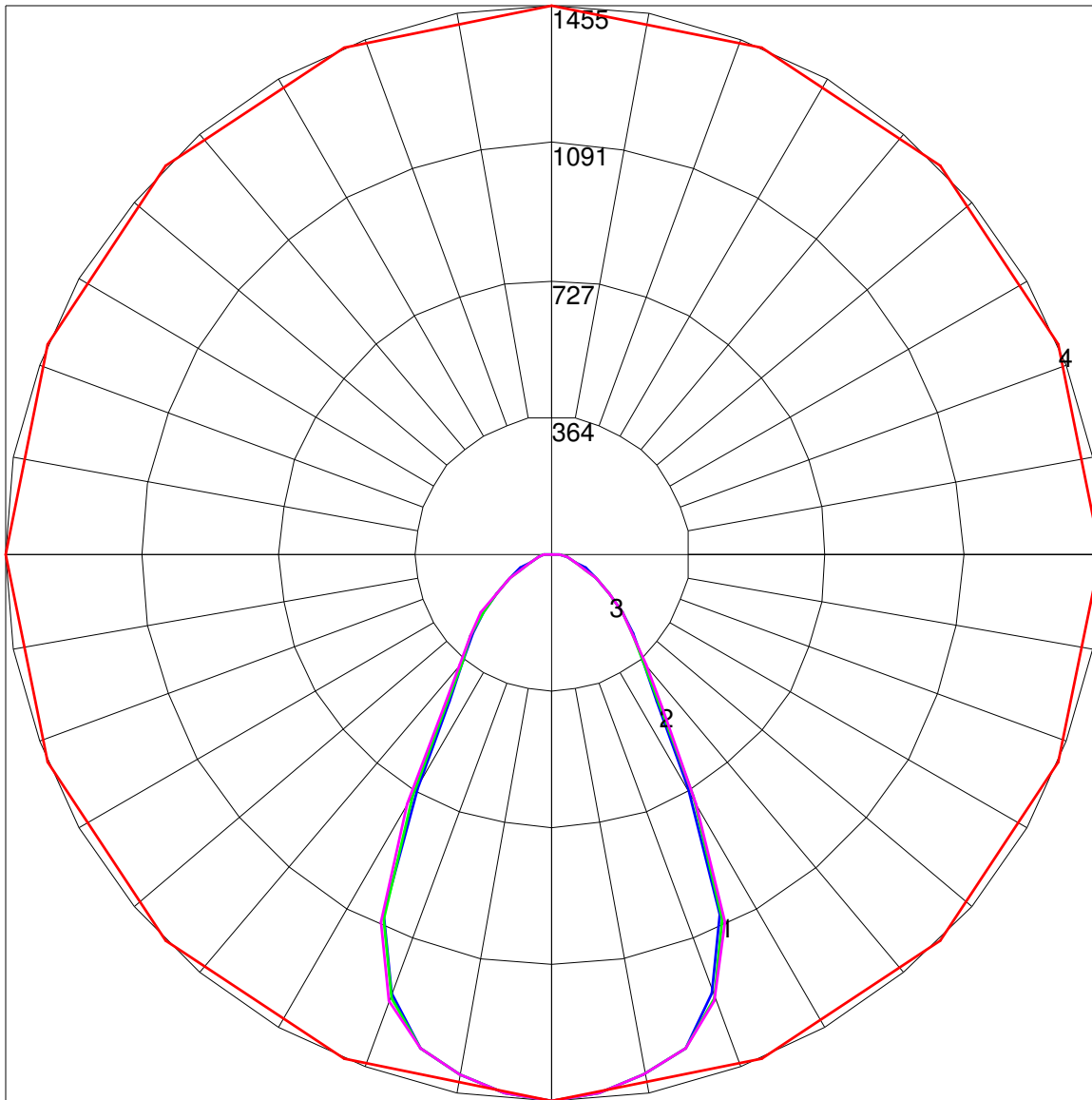
X=2H	Y=2H	21.9	23.2	22.2	23.5	23.8	21.8	23.1	22.2	23.4	23.7
	3H	22.9	24.1	23.3	24.4	24.8	22.8	24.0	23.2	24.3	24.7
	4H	23.2	24.3	23.6	24.7	25.0	23.2	24.2	23.6	24.6	25.0
	6H	23.4	24.4	23.8	24.8	25.2	23.4	24.3	23.8	24.7	25.1
	8H	23.4	24.4	23.9	24.8	25.2	23.4	24.3	23.8	24.7	25.1
	12H	23.4	24.3	23.8	24.7	25.1	23.4	24.3	23.8	24.7	25.1

UGR Viewed Endwise

4H	2H	22.2	23.2	22.6	23.6	24.0	22.1	23.2	22.5	23.6	23.9
	3H	23.4	24.3	23.8	24.7	25.1	23.3	24.2	23.7	24.6	25.0
	4H	23.8	24.6	24.2	25.0	25.5	23.7	24.5	24.2	24.9	25.4
	6H	24.1	24.7	24.5	25.2	25.7	24.0	24.7	24.5	25.1	25.6
	8H	24.1	24.7	24.6	25.2	25.7	24.1	24.7	24.5	25.2	25.6
	12H	24.1	24.7	24.6	25.2	25.6	24.1	24.6	24.6	25.1	25.6
8H	4H	23.9	24.5	24.4	25.0	25.5	23.8	24.5	24.3	24.9	25.4
	6H	24.2	24.7	24.7	25.2	25.7	24.2	24.7	24.7	25.2	25.7
	8H	24.3	24.8	24.8	25.3	25.8	24.3	24.7	24.8	25.2	25.7
	12H	24.3	24.7	24.8	25.2	25.8	24.3	24.7	24.8	25.2	25.8
12H	4H	23.9	24.4	24.4	24.9	25.4	23.8	24.4	24.3	24.9	25.3
	6H	24.2	24.7	24.7	25.1	25.7	24.2	24.6	24.7	25.1	25.6
	8H	24.3	24.7	24.8	25.2	25.8	24.3	24.7	24.8	25.2	25.8

Maximum UGR = 25.8

POLAR GRAPH



Maximum Candela = 1454.608 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.)