



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L13-9DW-DIM-UNV-OW-OF-WH_3000K_.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] 12-18-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC -CARTHAGE, MO
 [LUMINAIRE] 4"SQ CAST HOUSING LED DOWNLIGHT
 [MORE] WHITE MIXING CHAMBER & 4"SEMI-SPEC TRIM w/FROST FILM
 [MORE] 0-10V DIMMING DRIVER
 [LUMCAT] 4DS-L13-9DW-DIM-UNV-OW-OF-WH 3000K
 [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	981
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	42
Total Luminaire Watts	23.4
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	10661	13788	10732
55	2191	2891	1928
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>
0	1260.841	1260.841	1260.841	1260.841	1260.841
5	1225.084	1220.420	1213.683	1213.683	1207.464
10	1119.884	1105.892	1090.864	1090.345	1089.309
15	998.101	968.563	933.323	946.279	976.854
20	874.246	824.496	787.702	813.095	850.407
25	717.742	684.057	652.445	665.401	707.895
30	489.204	504.751	526.517	509.415	495.423
35	273.105	314.044	387.632	315.081	257.558
40	131.111	157.540	224.910	161.168	135.257
45	77.734	78.770	100.536	74.624	78.252
50	43.531	41.976	39.385	39.903	39.385
55	12.956	16.065	17.101	15.547	11.401
60	0.518	1.555	5.182	1.555	0.000
65	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	381.16	N.A.	38.90
0-30	688.75	N.A.	70.20
0-40	892.50	N.A.	91.00
0-60	980.35	N.A.	99.90
0-80	980.87	N.A.	100.00
0-90	980.87	N.A.	100.00
10-90	868.48	N.A.	88.50
20-40	511.34	N.A.	52.10
20-50	583.02	N.A.	59.40
40-70	88.37	N.A.	9.00
60-80	0.52	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	980.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	112.39
10-20	268.77
20-30	307.59
30-40	203.75
40-50	71.68
50-60	16.17
60-70	0.52
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

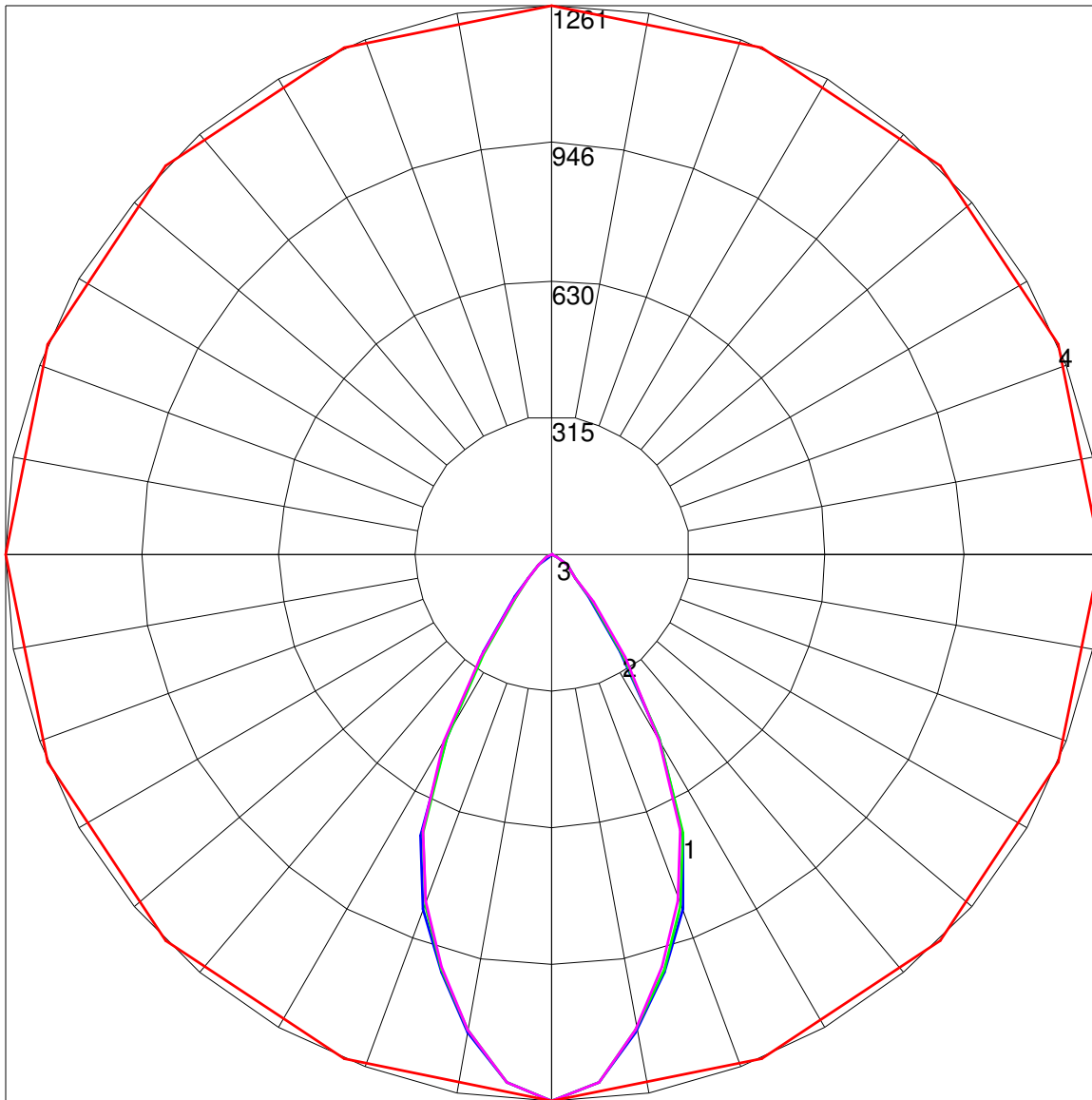
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UGR TABLE - CORRECTED

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	3.7	4.7	4.1	5.0	5.3	3.4	4.4	3.7	4.7	5.0
	3H	3.5	4.4	3.9	4.7	5.1	3.2	4.1	3.6	4.4	4.8
	4H	3.4	4.2	3.8	4.6	5.0	3.1	3.9	3.5	4.2	4.6
	6H	3.3	4.1	3.7	4.4	4.8	3.0	3.7	3.4	4.1	4.5
	8H	3.3	4.0	3.7	4.3	4.8	2.9	3.6	3.4	4.0	4.4
	12H	3.2	3.9	3.6	4.2	4.7	2.9	3.5	3.3	3.9	4.3
4H	2H	3.4	4.2	3.8	4.6	5.0	3.1	3.9	3.5	4.3	4.6
	3H	3.2	3.9	3.6	4.3	4.7	2.9	3.5	3.3	3.9	4.3
	4H	3.1	3.7	3.5	4.1	4.6	2.8	3.3	3.2	3.8	4.2
	6H	3.0	3.5	3.5	3.9	4.4	2.7	3.1	3.1	3.6	4.1
	8H	2.9	3.4	3.4	3.8	4.3	2.6	3.0	3.1	3.5	4.0
	12H	2.8	3.2	3.3	3.7	4.2	2.5	2.9	3.0	3.4	3.9
8H	4H	2.9	3.4	3.4	3.8	4.3	2.6	3.0	3.1	3.5	4.0
	6H	2.8	3.2	3.3	3.7	4.1	2.4	2.8	2.9	3.3	3.8
	8H	2.7	3.0	3.2	3.6	4.1	2.4	2.7	2.9	3.2	3.7
	12H	2.7	2.9	3.2	3.4	4.0	2.3	2.6	2.8	3.1	3.7
12H	4H	2.8	3.2	3.3	3.7	4.2	2.5	2.9	3.0	3.4	3.9
	6H	2.7	3.0	3.2	3.5	4.1	2.4	2.7	2.9	3.2	3.7
	8H	2.7	2.9	3.2	3.4	4.0	2.3	2.6	2.8	3.1	3.7

Maximum UGR = 5.3

POLAR GRAPH



Maximum Candela = 1260.841 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.)