



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L40-840-DIM-UNV-RW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20321.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 13-MAY-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4"SQ CAST HOUSING DOWNLIGHT

[MORE] WITH 4"CAST WHITE REGRESS w/SOLITE LENS

[LUMCAT] 4DS-L40-840-DIM-UNV-RW-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	3933
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	45
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.02
Spacing Criterion (90-270)	1.02
Spacing Criterion (Diagonal)	1.06
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	73580	82059	73306
55	56651	54628	55640
65	36613	34325	35698
75	16441	17935	17188
85	8877	6657	8877

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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	3001.605	3001.605	3001.605	3001.605	3001.605
5	2983.655	2983.655	2981.661	2985.650	2993.627
10	2927.811	2923.823	2937.784	2955.733	2967.700
15	2846.040	2844.046	2858.007	2881.940	2895.901
20	2738.341	2734.353	2752.302	2752.302	2736.347
25	2399.290	2471.089	2578.788	2493.027	2391.312
30	1573.599	1790.991	2251.702	1950.545	1573.599
35	895.495	1005.189	1653.376	1136.821	897.490
40	644.198	694.059	945.356	737.936	662.148
45	536.500	552.455	598.327	572.399	534.505
50	438.773	446.751	444.756	438.773	424.812
55	335.063	343.041	323.096	329.080	329.080
60	243.319	243.319	229.359	235.342	239.331
65	159.554	161.548	149.582	155.565	155.565
70	79.777	87.755	87.755	85.760	81.771
75	43.877	43.877	47.866	43.877	45.872
80	27.922	27.922	19.944	23.933	23.933
85	7.978	5.983	5.983	5.983	7.978
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1090.08	N.A.	27.70
0-30	2192.28	N.A.	55.70
0-40	2965.68	N.A.	75.40
0-60	3713.12	N.A.	94.40
0-80	3922.69	N.A.	99.70
0-90	3932.86	N.A.	100.00
10-90	3649.3	N.A.	92.80
20-40	1875.61	N.A.	47.70
20-50	2323.56	N.A.	59.10
40-70	904.24	N.A.	23.00
60-80	209.56	N.A.	5.30
70-80	52.76	N.A.	1.30
80-90	10.17	N.A.	0.30
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	3932.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	283.56
10-20	806.51
20-30	1102.21
30-40	773.40
40-50	447.95
50-60	299.49
60-70	156.80
70-80	52.76
80-90	10.17
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	93	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	82	78	75	74
4	92	83	77	72	90	82	76	71	80	74	70	78	73	69	76	72	69	67
5	87	77	70	65	85	76	69	64	74	68	64	72	67	63	70	66	63	61
6	81	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	61	57	53	51
8	72	61	55	50	71	61	54	50	60	54	49	59	53	49	58	53	49	47
9	69	57	51	46	67	57	50	46	56	50	46	55	50	46	54	49	46	44
10	65	54	47	43	64	53	47	43	53	47	43	52	46	43	51	46	42	41

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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

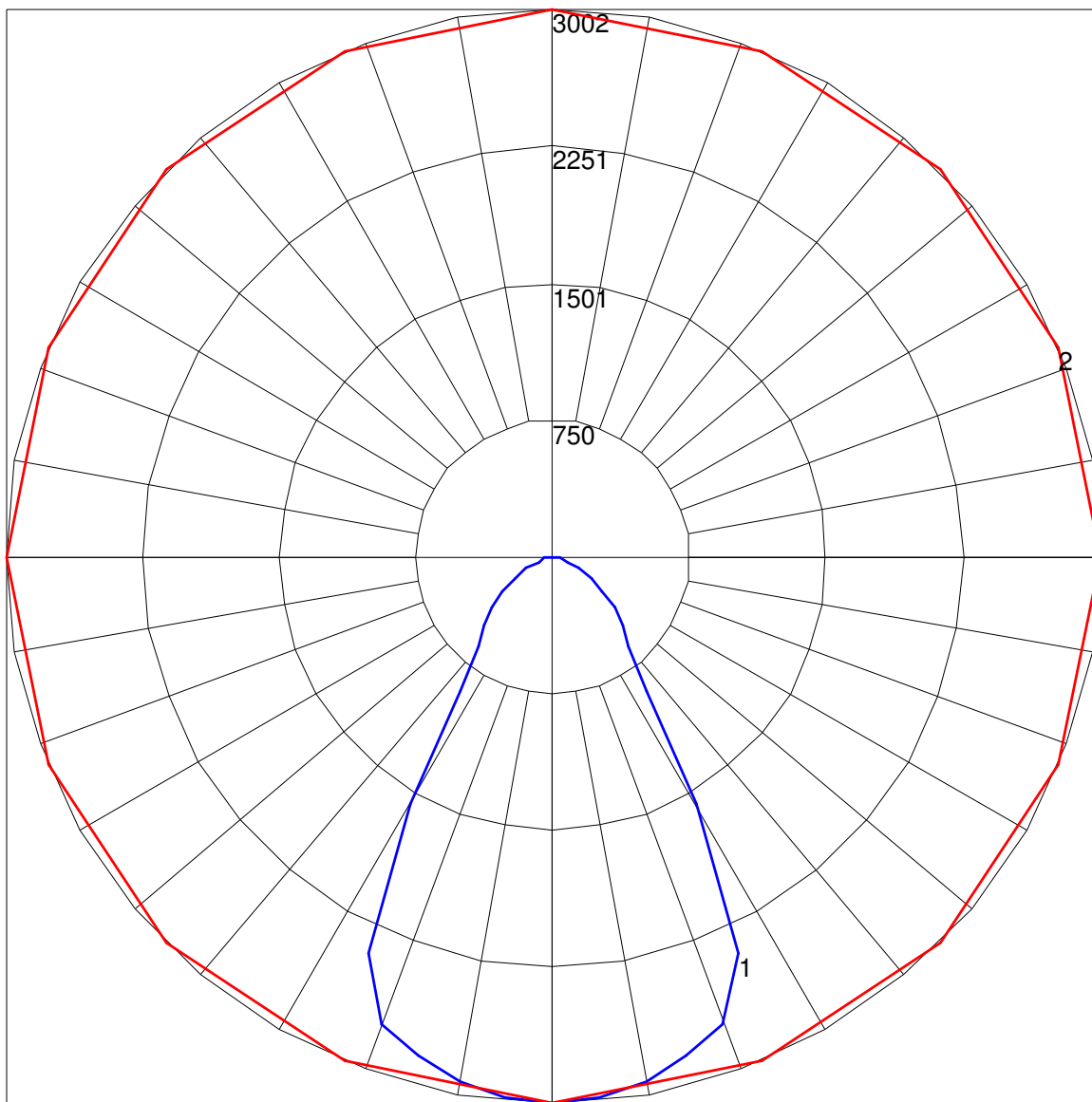
X=2H	Y=2H	23.7	24.9	24.0	25.2	25.5	23.4	24.7	23.8	25.0	25.3
	3H	24.3	25.4	24.7	25.7	26.1	24.1	25.2	24.5	25.5	25.9
	4H	24.4	25.4	24.8	25.8	26.2	24.2	25.2	24.6	25.6	26.0
	6H	24.5	25.4	24.9	25.8	26.2	24.3	25.2	24.7	25.6	26.0
	8H	24.5	25.4	24.9	25.7	26.2	24.3	25.1	24.7	25.5	25.9
	12H	24.4	25.3	24.9	25.7	26.1	24.2	25.1	24.7	25.5	25.9

UGR Viewed Endwise

4H	2H	23.9	24.9	24.3	25.2	25.6	23.7	24.7	24.1	25.0	25.4
	3H	24.6	25.5	25.0	25.9	26.3	24.5	25.3	24.9	25.7	26.1
	4H	24.8	25.5	25.2	25.9	26.4	24.6	25.3	25.0	25.8	26.2
	6H	24.9	25.5	25.4	26.0	26.4	24.7	25.3	25.2	25.8	26.3
	8H	24.9	25.5	25.4	25.9	26.4	24.7	25.3	25.2	25.7	26.2
	12H	24.9	25.4	25.4	25.9	26.4	24.7	25.2	25.2	25.7	26.2
8H	4H	24.7	25.3	25.2	25.8	26.3	24.6	25.2	25.1	25.6	26.1
	6H	24.9	25.4	25.4	25.9	26.4	24.7	25.2	25.2	25.7	26.2
	8H	24.9	25.4	25.5	25.9	26.4	24.7	25.2	25.3	25.7	26.2
	12H	25.0	25.3	25.5	25.8	26.4	24.8	25.1	25.3	25.6	26.2
12H	4H	24.7	25.2	25.2	25.7	26.2	24.6	25.1	25.0	25.6	26.0
	6H	24.9	25.3	25.4	25.8	26.3	24.7	25.1	25.2	25.6	26.1
	8H	24.9	25.3	25.5	25.8	26.4	24.7	25.1	25.3	25.6	26.2

Maximum UGR = 26.4

POLAR GRAPH



Maximum Candela = 3001.605 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.)