



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 76-4-L77-840-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from BALLABS TEST NO. 18634.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 18-NOV-2019
 [MANUFAC] WILLIAMS LINEAR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4' STRIP LUMINAIRE
 [MORE] LED ARRAYS ON WHITE REFLECTOR
 [LUMCAT] 76-4-L77-840-DRV-UNV
 [_SEARCH_SOURCETYPE]FL
 [_SEARCH_APPLICATION]INDOOR,COMMERCIAL,INDUSTRIAL,DIRECT,LINEAR
 [_SEARCH_APPLICATION]MANUFACTURING,WAREHOUSE
 [_SEARCH_MOUNTING]CEILING,SURFACE,SUSPENDED
 [_SEARCH_CERTIFICATION]DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7757
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	52.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.42
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.00 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19050	18916	18886
55	18096	17876	17765
65	17172	16948	16274
75	14224	13205	13205
85	9319	8593	8593

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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	2673.457	2673.457	2673.457	2673.457	2673.457
5	2682.286	2682.286	2679.343	2679.343	2679.343
10	2644.030	2641.088	2641.088	2641.088	2638.145
15	2568.991	2568.991	2566.048	2564.577	2564.577
20	2530.736	2524.850	2523.379	2514.551	2517.493
25	2386.543	2385.071	2379.186	2377.714	2377.714
30	2264.420	2261.477	2257.063	2251.178	2249.706
35	2155.539	2152.597	2146.711	2140.826	2136.412
40	1993.690	1989.276	1984.862	1978.976	1978.976
45	1878.924	1877.453	1865.682	1864.211	1862.739
50	1653.806	1649.392	1644.978	1637.621	1636.150
55	1447.816	1441.931	1430.160	1424.274	1421.332
60	1210.928	1203.571	1196.214	1188.857	1178.558
65	1012.294	1007.880	999.052	978.453	959.325
70	772.463	765.106	750.393	723.908	716.551
75	513.504	509.090	476.720	464.949	476.720
80	297.214	288.386	267.787	258.959	273.673
85	113.295	105.938	104.466	100.052	104.466
90	5.885	10.300	23.542	26.484	26.484

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	982.64	N.A.	12.70
0-30	2083.75	N.A.	26.90
0-40	3421.45	N.A.	44.10
0-60	6121.76	N.A.	78.90
0-80	7620.02	N.A.	98.20
0-90	7757.21	N.A.	100.00
10-90	7502.84	N.A.	96.70
20-40	2438.81	N.A.	31.40
20-50	3862.5	N.A.	49.80
40-70	3672.65	N.A.	47.30
60-80	1498.26	N.A.	19.30
70-80	525.93	N.A.	6.80
80-90	137.19	N.A.	1.80
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	7757.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	254.37
10-20	728.27
20-30	1101.12
30-40	1337.7
40-50	1423.69
50-60	1276.63
60-70	972.33
70-80	525.93
80-90	137.19
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	171	171	171	171	167	167	167	167	159	159	159	152	152	152	146	146	146	143
1	156	149	143	137	152	146	140	135	140	135	131	134	130	127	129	126	123	120
2	142	130	120	112	138	127	118	110	122	114	108	117	111	105	113	107	103	100
3	129	114	102	92	125	111	100	92	107	98	90	103	95	88	99	93	87	84
4	118	101	88	78	115	99	87	78	95	85	77	92	83	75	89	81	74	71
5	108	90	77	67	105	88	76	67	85	74	66	82	73	65	80	71	65	62
6	100	81	68	59	97	79	67	58	77	66	58	74	65	57	72	63	57	54
7	93	73	60	52	90	72	60	51	70	59	51	68	58	51	66	57	50	47
8	86	67	54	46	84	66	54	46	64	53	45	62	52	45	60	51	45	42
9	80	61	49	41	78	60	49	41	59	48	41	57	48	41	56	47	40	38
10	75	56	45	37	74	56	45	37	54	44	37	53	44	37	52	43	37	34

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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	21.0	22.7	21.4	23.0	23.3	20.9	22.6	21.3	22.9	23.2
	3H	22.9	24.4	23.3	24.7	25.1	22.7	24.2	23.1	24.5	24.9
	4H	23.5	24.9	23.9	25.3	25.7	23.3	24.7	23.7	25.0	25.4
	6H	24.0	25.3	24.4	25.6	26.0	23.7	25.0	24.1	25.3	25.7
	8H	24.1	25.4	24.5	25.7	26.1	23.8	25.0	24.2	25.4	25.8
	12H	24.2	25.4	24.6	25.8	26.2	23.9	25.0	24.3	25.4	25.9

UGR Viewed Endwise

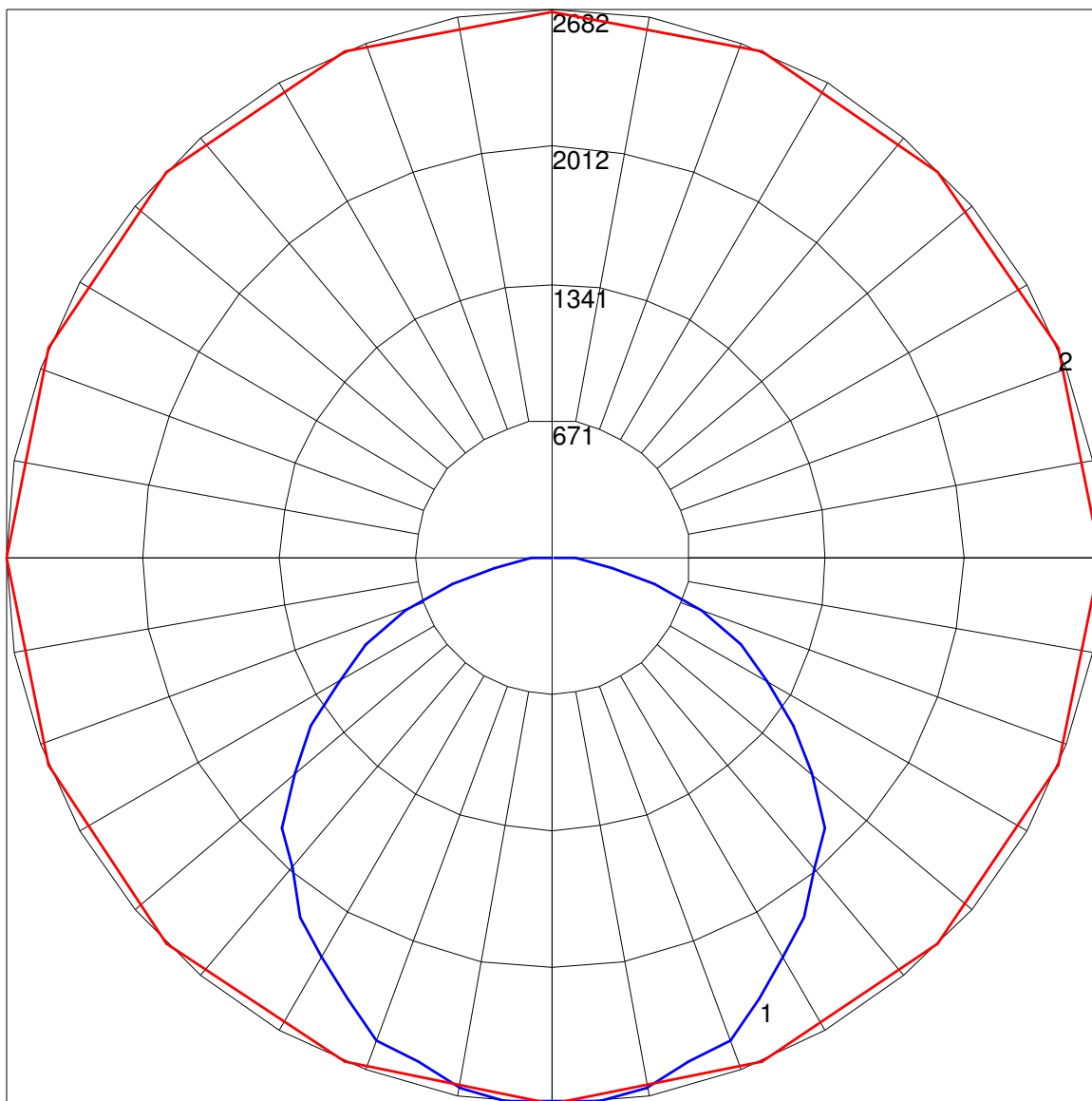
4H	2H	21.7	23.1	22.1	23.4	23.8	21.6	23.0	22.0	23.4	23.7
	3H	23.7	24.9	24.2	25.3	25.7	23.5	24.7	23.9	25.1	25.5
	4H	24.5	25.6	24.9	26.0	26.4	24.2	25.3	24.7	25.7	26.1
	6H	25.1	26.0	25.5	26.4	26.9	24.7	25.7	25.2	26.1	26.6
	8H	25.2	26.1	25.7	26.5	27.0	24.9	25.8	25.3	26.2	26.7
	12H	25.3	26.1	25.8	26.6	27.1	25.0	25.8	25.5	26.2	26.7

8H	4H	24.8	25.6	25.2	26.1	26.5	24.5	25.4	25.0	25.8	26.3
	6H	25.4	26.1	25.9	26.6	27.1	25.1	25.8	25.6	26.3	26.8
	8H	25.7	26.3	26.2	26.8	27.3	25.3	26.0	25.8	26.5	27.0
	12H	25.8	26.4	26.3	26.9	27.4	25.5	26.0	26.0	26.5	27.1

12H	4H	24.8	25.6	25.2	26.0	26.5	24.5	25.3	25.0	25.8	26.3
	6H	25.4	26.1	26.0	26.6	27.1	25.1	25.8	25.7	26.3	26.8
	8H	25.7	26.3	26.2	26.8	27.4	25.4	26.0	25.9	26.5	27.0

Maximum UGR = 27.4

POLAR GRAPH



Maximum Candela = 2682.286 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)