H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : MD4ERRG-4-P50-840-A-POE EXAM ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20050.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 27-JUL-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2-84 LED (EXAM) & READING (RIGHT) 4' MEDICAL ASYM TROFFER
[MORE] WHITE REFL w/FROSTED ACRYLIC RIBBED LENS IN DOOR & CLEAR
[MORE] ACRYLIC LENS
[LUMCAT] MD4ERRG-4-P50-840-A-PoE EXAM ONLY

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5037
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	42.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.76
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.44 ft
Luminous Width (90-270)	3.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19937	17593	11322
55	19099	16817	9574
65	12737	14306	7356
75	4305	6977	4129
85	0	197	197

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0	1935.282	1935.282	1935.282	1935.282	1935.282	1935.282	1935.282	1935.282	1935.282
5	2074.833	2073.955	2044.114	2019.539	1962.490	1856.291	1781.688	1736.049	1841.371
10	2199.464	2195.075	2142.414	2065.179	1944.059	1765.012	1627.217	1557.003	1643.893
15	2298.641	2273.189	2209.118	2084.488	1907.196	1671.978	1478.889	1373.568	1465.724
20	2374.999	2340.770	2252.124	2082.732	1848.392	1549.981	1299.843	1188.377	1265.613
25	2410.984	2380.265	2256.513	2048.503	1763.257	1427.106	1155.026	1037.417	1081.301
30	2411.862	2381.143	2234.571	1994.964	1655.303	1304.231	1028.640	902.254	922.441
35	2374.122	2344.281	2174.011	1897.542	1526.284	1170.824	882.945	762.703	774.991
40	2296.008	2262.656	2065.179	1772.912	1384.977	1037.417	749.538	643.339	645.972
45	2165.234	2135.393	1910.707	1626.339	1229.628	895.233	635.440	545.039	532.751
50	1968.634	1960.735	1713.229	1441.149	1041.805	743.394	514.320	450.249	439.717
55	1682.511	1732.538	1481.522	1207.686	843.450	592.433	399.344	362.481	362.481
60	1283.167	1415.696	1230.506	953.159	655.626	436.206	304.555	275.591	279.980
65	826.774	982.123	928.584	731.107	477.457	284.368	211.521	181.680	179.924
70	450.249	559.082	590.678	503.788	311.576	178.169	121.997	96.545	100.055
75	171.147	233.463	277.347	256.282	164.126	100.055	52.661	42.129	51.783
80	36.863	51.783	69.337	71.970	55.294	31.596	19.309	16.676	20.187
85	0.000	2.633	2.633	1.755	2.633	2.633	1.755	0.878	2.633
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	707.89	N.A.	14.10
0-30	1504.39	N.A.	29.90
0-40	2468.49	N.A.	49.00
0-60	4310.83	N.A.	85.60
0-80	5024.51	N.A.	99.70
0-90	5037.32	N.A.	100.00
10-90	4854.06	N.A.	96.40
20-40	1760.6	N.A.	35.00
20-50	2753.06	N.A.	54.70
40-70	2376.52	N.A.	47.20
60-80	713.68	N.A.	14.20
70-80	179.51	N.A.	3.60
80-90	12.81	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	5037.32	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	183.25
10-20	524.64
20-30	796.50
30-40	964.10
40-50	992.46
50-60	849.88
60-70	534.17
70-80	179.50
80-90	12.81
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	74	74	74	74	73	73	73	73	69	69	69	66	66	66	64	64	64	62
1	69	66	64	62	67	65	63	61	62	60	59	60	58	57	57	56	55	54
2	63	58	54	51	61	57	54	50	55	52	49	53	50	48	51	49	47	46
3	58	51	47	43	56	51	46	43	49	45	42	47	44	41	45	43	40	39
4	53	46	41	37	52	45	40	36	43	39	36	42	38	35	41	38	35	34
5	49	41	36	32	47	40	35	31	39	35	31	38	34	31	37	33	30	29
6	45	37	32	28	44	36	31	28	35	31	27	34	30	27	33	30	27	26
7	42	34	28	24	41	33	28	24	32	28	24	31	27	24	30	27	24	23
8	39	31	25	22	38	30	25	22	29	25	22	29	25	22	28	24	21	20
9	36	28	23	20	35	28	23	20	27	23	20	26	22	19	26	22	19	18
10	34	26	21	18	33	26	21	18	25	21	18	24	20	18	24	20	18	16

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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	26.2	27.8	26.6	28.1	28.4	21.8	23.3	22.1	23.7	24.0
	3H	27.0	28.4	27.4	28.8	29.1	22.9	24.3	23.3	24.6	25.0
	4H	27.1	28.4	27.5	28.8	29.2	23.1	24.4	23.5	24.8	25.2
	6H	27.1	28.3	27.5	28.7	29.1	23.2	24.4	23.6	24.8	25.2
	8H	27.1	28.2	27.5	28.6	29.0	23.2	24.3	23.6	24.7	25.1
	12H	27.0	28.1	27.4	28.5	28.9	23.1	24.3	23.6	24.6	25.1
4H	2H	26.6	27.9	27.0	28.3	28.6	22.6	23.9	23.0	24.2	24.6
	3H	27.6	28.7	28.0	29.1	29.5	23.8	24.9	24.3	25.3	25.7
	4H	27.7	28.7	28.1	29.1	29.5	24.1	25.1	24.6	25.5	26.0
	6H	27.7	28.5	28.1	29.0	29.4	24.2	25.1	24.7	25.5	26.0
	8H	27.7	28.4	28.1	28.9	29.4	24.2	25.0	24.7	25.4	25.9
	12H	27.6	28.3	28.1	28.8	29.3	24.2	24.9	24.7	25.4	25.8
8H	4H	27.7	28.5	28.2	29.0	29.4	24.3	25.0	24.7	25.5	26.0
	6H	27.7	28.4	28.2	28.9	29.3	24.4	25.0	24.9	25.5	26.0
	8H	27.7	28.3	28.2	28.8	29.3	24.3	24.9	24.9	25.4	25.9
	12H	27.7	28.2	28.2	28.7	29.2	24.3	24.8	24.8	25.3	25.9
12H	4H	27.7	28.4	28.2	28.9	29.4	24.2	24.9	24.7	25.4	25.9
	6H	27.7	28.3	28.2	28.7	29.3	24.3	24.9	24.9	25.4	25.9
	8H	27.7	28.2	28.2	28.7	29.2	24.3	24.8	24.8	25.3	25.9

Maximum UGR = 29.5

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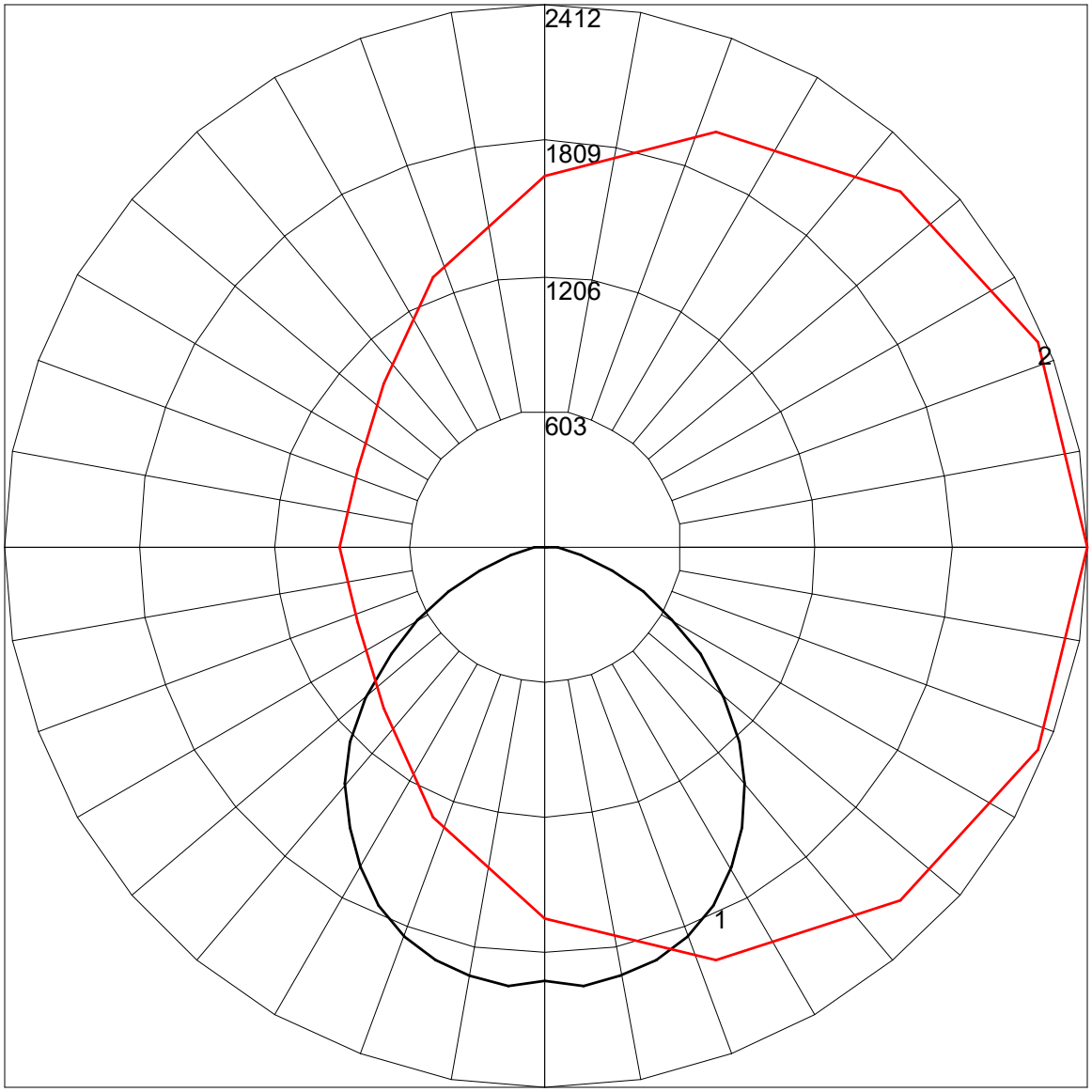
POLAR GRAPH



Maximum Candela = 2411.862 Located At Horizontal Angle = 0, Vertical Angle = 30
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (30) (Through Max. Cd.)

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