H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20990.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 08/24/2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' LENSED LED STRIP LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[MORE] EVERLINE #D21CC80UNVPW-C
[LUMCAT] 76R-4-L52-835-DIM-UNV
[LAMPCAT] HLMX 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5103
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	35.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8929	8183	8397
55	7614	7092	7467
65	6124	5874	6465
75	4750	4981	5586
85	2229	4490	5200

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1647.860	1647.860	1647.860	1647.860	1647.860
5	1661.677	1639.889	1635.638	1635.638	1630.856
10	1631.387	1612.788	1613.851	1618.102	1612.788
15	1576.653	1562.305	1573.996	1586.750	1585.155
20	1505.977	1500.132	1519.262	1542.644	1543.707
25	1408.200	1414.577	1449.118	1479.939	1487.910
30	1305.110	1316.269	1365.689	1405.543	1420.954
35	1176.512	1202.550	1267.912	1319.989	1338.056
40	1053.759	1081.923	1160.570	1233.371	1250.376
45	908.156	949.074	1044.725	1123.372	1144.628
50	772.119	822.602	927.287	1013.904	1037.286
55	637.676	687.096	807.191	896.997	924.630
60	510.141	565.937	689.221	772.119	803.471
65	387.388	446.373	567.000	672.748	695.598
70	285.891	337.968	464.440	567.000	594.101
75	193.960	251.882	379.948	471.880	492.073
80	107.873	178.549	303.959	387.388	416.083
85	38.261	120.627	241.254	318.838	342.751
90	0.000	79.709	188.114	264.104	279.515
95	0.000	51.014	148.260	216.278	239.660
100	0.000	34.009	113.719	179.081	197.679
105	0.000	22.850	89.806	144.540	165.264
110	0.000	10.628	71.207	118.501	138.163
115	0.000	6.908	56.859	99.903	113.719
120	0.000	0.000	45.169	81.835	96.183
125	0.000	0.000	35.072	65.362	76.521
130	0.000	0.000	27.633	51.545	61.111
135	0.000	0.000	22.319	39.855	48.888
140	0.000	0.000	11.691	30.290	37.198
145	0.000	0.000	4.251	23.381	27.101
150	0.000	0.000	0.000	20.193	22.850
155	0.000	0.000	0.000	19.130	20.193
160	0.000	0.000	0.000	11.159	18.599
165	0.000	0.000	0.000	3.720	6.377
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	600.46	N.A.	11.80
0-30	1267.6	N.A.	24.80
0-40	2057.66	N.A.	40.30
0-60	3568.62	N.A.	69.90
0-80	4507.94	N.A.	88.30
0-90	4749.63	N.A.	93.10
10-90	4593.85	N.A.	90.00
20-40	1457.2	N.A.	28.60
20-50	2257.87	N.A.	44.20
40-70	2065.02	N.A.	40.50
60-80	939.33	N.A.	18.40
70-80	385.27	N.A.	7.60
80-90	241.69	N.A.	4.70
90-110	238.93	N.A.	4.70
90-120	293.99	N.A.	5.80
90-130	325.62	N.A.	6.40
90-150	349.28	N.A.	6.80
90-180	353.17	N.A.	6.90
110-180	114.25	N.A.	2.20
0-180	5102.81	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	155.78
10-20	444.68
20-30	667.14
30-40	790.06
40-50	800.66
50-60	710.29
60-70	554.06
70-80	385.27
80-90	241.69
90-100	147.91
100-110	91.02
110-120	55.06
120-130	31.64
130-140	16.73
140-150	6.92
150-160	3.23
160-170	0.67
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	90	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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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	16.6	18.1	17.0	18.5	19.0	19.6	21.1	20.1	21.5	22.0
	3H	17.8	19.1	18.3	19.6	20.1	21.8	23.2	22.3	23.7	24.2
	4H	18.2	19.5	18.7	19.9	20.5	22.9	24.2	23.4	24.7	25.2
	6H	18.4	19.6	18.9	20.1	20.6	24.0	25.2	24.5	25.7	26.2
	8H	18.4	19.6	19.0	20.1	20.7	24.6	25.7	25.1	26.2	26.8
	12H	18.4	19.5	19.0	20.1	20.7	25.2	26.3	25.7	26.8	27.4
4H	2H	17.5	18.8	18.0	19.3	19.8	19.9	21.2	20.4	21.7	22.2
	3H	19.0	20.1	19.5	20.6	21.2	22.4	23.5	22.9	24.0	24.6
	4H	19.5	20.5	20.0	21.0	21.6	23.6	24.6	24.1	25.2	25.8
	6H	19.8	20.7	20.3	21.2	21.9	24.9	25.8	25.5	26.4	27.0
	8H	19.9	20.7	20.4	21.3	21.9	25.6	26.4	26.1	27.0	27.6
	12H	19.9	20.7	20.5	21.3	21.9	26.3	27.1	26.9	27.7	28.3
8H	4H	20.2	21.0	20.8	21.6	22.2	23.8	24.6	24.3	25.2	25.8
	6H	20.7	21.4	21.3	22.0	22.7	25.2	25.9	25.8	26.5	27.2
	8H	20.9	21.5	21.5	22.1	22.8	26.0	26.7	26.6	27.3	27.9
	12H	21.0	21.6	21.6	22.2	22.9	27.0	27.5	27.6	28.1	28.8
12H	4H	20.4	21.2	21.0	21.8	22.4	23.8	24.5	24.4	25.1	25.8
	6H	21.0	21.7	21.7	22.3	22.9	25.3	25.9	25.9	26.5	27.2
	8H	21.3	21.9	21.9	22.5	23.2	26.1	26.7	26.7	27.3	28.0

Maximum UGR = 28.8

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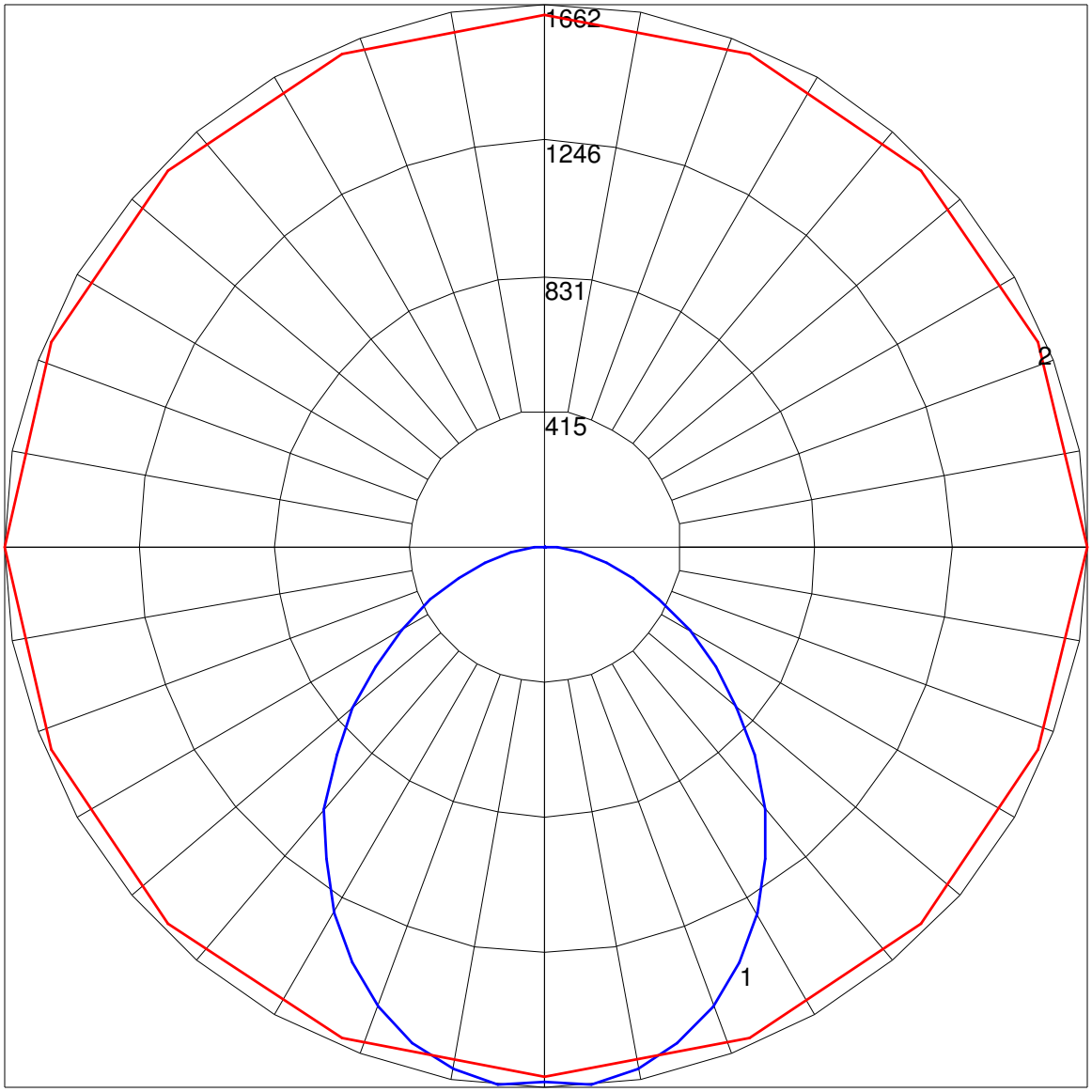
POLAR GRAPH



Maximum Candela = 1661.677 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.)

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