



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_29\_47-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.12

[TESTLAB]

[ISSUE DATE] 25-FEB-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] 8CRDI-TL-P29-8TWU-P29-8TWD-xxx-PoE PR-OM-CSU-RW-WHD-WM 4000k

[LUMINAIRE] White formed aluminum housing, specular reflector, cover glass

[LAMP] Two white LEDs, one up/ one down

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] INDOOR, DIRECT, INDIRECT

[\_SEARCH\_MOUNTING] WALL

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4613
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	50
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.50 ft (Diameter)
Luminous Width (90-270)	0.50 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	27264	27264	27264
55	22737	22737	22737
65	16041	16041	16041
75	9826	9826	9826
85	7749	7749	7749

**IES INDOOR REPORT**  
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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
<b>0.0</b>	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543
<b>2.5</b>	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363
<b>5.0</b>	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958
<b>7.5</b>	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508
<b>10.0</b>	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013
<b>12.5</b>	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474
<b>15.0</b>	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934
<b>17.5</b>	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896
<b>20.0</b>	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207
<b>22.5</b>	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425
<b>25.0</b>	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411
<b>27.5</b>	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138
<b>30.0</b>	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927	996.927
<b>32.5</b>	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477	790.477
<b>35.0</b>	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166	600.166
<b>37.5</b>	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498	480.498
<b>40.0</b>	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533	418.533
<b>42.5</b>	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623	380.623
<b>45.0</b>	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000	352.000
<b>47.5</b>	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661	325.661
<b>50.0</b>	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560	298.560
<b>52.5</b>	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872	268.872
<b>55.0</b>	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118	238.118
<b>57.5</b>	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754	206.754
<b>60.0</b>	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218	177.218
<b>62.5</b>	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509	149.509
<b>65.0</b>	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779	123.779
<b>67.5</b>	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180	100.180
<b>70.0</b>	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017	79.017
<b>72.5</b>	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595	60.595
<b>75.0</b>	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436	46.436
<b>77.5</b>	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235	36.235
<b>80.0</b>	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557	27.557
<b>82.5</b>	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488	19.488
<b>85.0</b>	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332	12.332
<b>87.5</b>	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633	5.633
<b>90.0</b>	1.643	1.643	1.643	1.643	1.643	1.643	1.643	1.643	1.643	1.643
<b>92.5</b>	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242	0.242
<b>95.0</b>	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363
<b>97.5</b>	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484	0.484
<b>100.0</b>	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727	0.727
<b>102.5</b>	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969	0.969
<b>105.0</b>	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332	1.332
<b>107.5</b>	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938	1.938
<b>110.0</b>	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664	2.664
<b>112.5</b>	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512	3.512
<b>115.0</b>	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844	4.844
<b>117.5</b>	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539	6.539
<b>120.0</b>	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840	8.840
<b>122.5</b>	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110	12.110
<b>125.0</b>	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712	16.712
<b>127.5</b>	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493	23.493
<b>130.0</b>	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455	32.455
<b>132.5</b>	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353	43.353

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**CANDELA TABULATION - (Cont.)**

135.0	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947	55.947
137.5	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077	79.077
140.0	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232	140.232
142.5	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895	208.895
145.0	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944	478.944
147.5	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250	861.250
150.0	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614
152.5	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325
155.0	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906
157.5	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605
160.0	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396
162.5	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327
165.0	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532
167.5	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395
170.0	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467
172.5	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627
175.0	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019
177.5	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006
180.0	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548

**Vert.  
Angles**

**Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543	1627.543
2.5	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363	1615.363
5.0	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958	1587.958
7.5	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508	1557.508
10.0	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013	1524.013
12.5	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474	1487.474
15.0	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934	1450.934
17.5	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896	1417.896
20.0	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207	1388.207
22.5	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425	1345.425
25.0	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411	1273.411
27.5	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138	1160.138
30.0	996.927	996.927	996.927	996.927	996.927	996.927	996.927
32.5	790.477	790.477	790.477	790.477	790.477	790.477	790.477
35.0	600.166	600.166	600.166	600.166	600.166	600.166	600.166
37.5	480.498	480.498	480.498	480.498	480.498	480.498	480.498
40.0	418.533	418.533	418.533	418.533	418.533	418.533	418.533
42.5	380.623	380.623	380.623	380.623	380.623	380.623	380.623
45.0	352.000	352.000	352.000	352.000	352.000	352.000	352.000
47.5	325.661	325.661	325.661	325.661	325.661	325.661	325.661
50.0	298.560	298.560	298.560	298.560	298.560	298.560	298.560
52.5	268.872	268.872	268.872	268.872	268.872	268.872	268.872
55.0	238.118	238.118	238.118	238.118	238.118	238.118	238.118
57.5	206.754	206.754	206.754	206.754	206.754	206.754	206.754
60.0	177.218	177.218	177.218	177.218	177.218	177.218	177.218
62.5	149.509	149.509	149.509	149.509	149.509	149.509	149.509
65.0	123.779	123.779	123.779	123.779	123.779	123.779	123.779
67.5	100.180	100.180	100.180	100.180	100.180	100.180	100.180
70.0	79.017	79.017	79.017	79.017	79.017	79.017	79.017
72.5	60.595	60.595	60.595	60.595	60.595	60.595	60.595
75.0	46.436	46.436	46.436	46.436	46.436	46.436	46.436
77.5	36.235	36.235	36.235	36.235	36.235	36.235	36.235
80.0	27.557	27.557	27.557	27.557	27.557	27.557	27.557

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**CANDELA TABULATION - (Cont.)**

82.5	19.488	19.488	19.488	19.488	19.488	19.488	19.488
85.0	12.332	12.332	12.332	12.332	12.332	12.332	12.332
87.5	5.633	5.633	5.633	5.633	5.633	5.633	5.633
90.0	1.643	1.643	1.643	1.643	1.643	1.643	1.643
92.5	0.242	0.242	0.242	0.242	0.242	0.242	0.242
95.0	0.363	0.363	0.363	0.363	0.363	0.363	0.363
97.5	0.484	0.484	0.484	0.484	0.484	0.484	0.484
100.0	0.727	0.727	0.727	0.727	0.727	0.727	0.727
102.5	0.969	0.969	0.969	0.969	0.969	0.969	0.969
105.0	1.332	1.332	1.332	1.332	1.332	1.332	1.332
107.5	1.938	1.938	1.938	1.938	1.938	1.938	1.938
110.0	2.664	2.664	2.664	2.664	2.664	2.664	2.664
112.5	3.512	3.512	3.512	3.512	3.512	3.512	3.512
115.0	4.844	4.844	4.844	4.844	4.844	4.844	4.844
117.5	6.539	6.539	6.539	6.539	6.539	6.539	6.539
120.0	8.840	8.840	8.840	8.840	8.840	8.840	8.840
122.5	12.110	12.110	12.110	12.110	12.110	12.110	12.110
125.0	16.712	16.712	16.712	16.712	16.712	16.712	16.712
127.5	23.493	23.493	23.493	23.493	23.493	23.493	23.493
130.0	32.455	32.455	32.455	32.455	32.455	32.455	32.455
132.5	43.353	43.353	43.353	43.353	43.353	43.353	43.353
135.0	55.947	55.947	55.947	55.947	55.947	55.947	55.947
137.5	79.077	79.077	79.077	79.077	79.077	79.077	79.077
140.0	140.232	140.232	140.232	140.232	140.232	140.232	140.232
142.5	208.895	208.895	208.895	208.895	208.895	208.895	208.895
145.0	478.944	478.944	478.944	478.944	478.944	478.944	478.944
147.5	861.250	861.250	861.250	861.250	861.250	861.250	861.250
150.0	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614	1214.614
152.5	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325	1425.325
155.0	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906	1709.906
157.5	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605	2029.605
160.0	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396	2315.396
162.5	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327	2550.327
165.0	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532	2815.532
167.5	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395	3153.395
170.0	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467	3624.467
172.5	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627	4325.627
175.0	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019	4810.019
177.5	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006	4919.006
180.0	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548	4858.548

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	559.53	N.A.	12.10
0-30	1129.64	N.A.	24.50
0-40	1527.35	N.A.	33.10
0-60	2012.83	N.A.	43.60
0-80	2188.47	N.A.	47.40
0-90	2202.63	N.A.	47.80
10-90	2053.03	N.A.	44.50
20-40	967.82	N.A.	21.00
20-50	1240.91	N.A.	26.90
40-70	609.33	N.A.	13.20
60-80	175.64	N.A.	3.80
70-80	51.79	N.A.	1.10
80-90	14.16	N.A.	0.30
90-110	2.18	N.A.	0.00
90-120	7.27	N.A.	0.20
90-130	23.43	N.A.	0.50
90-150	409.06	N.A.	8.90
90-180	2409.89	N.A.	52.20
110-180	2407.71	N.A.	52.20
0-180	4612.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	149.60
10-20	409.93
20-30	570.11
30-40	397.71
40-50	273.09
50-60	212.39
60-70	123.85
70-80	51.79
80-90	14.16
90-100	0.62
100-110	1.56
110-120	5.08
120-130	16.16
130-140	50.26
140-150	335.37
150-160	786.40
160-170	795.89
170-180	418.54

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_29\_47-MERGED.IES**

**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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	98	95	91	88	91	87	84	82	74	72	70	61	60	59	50	49	48	43
2	91	84	79	74	84	78	73	69	66	63	60	55	53	51	45	44	43	38
3	84	75	69	64	77	70	64	60	60	56	52	50	47	45	41	40	38	34
4	77	68	61	55	71	63	57	52	54	49	46	46	42	40	38	36	34	30
5	72	61	54	48	66	57	51	46	49	44	41	42	38	36	35	33	31	28
6	67	56	48	43	61	52	45	41	45	40	36	39	35	32	33	30	28	25
7	62	51	43	38	57	48	41	36	41	36	33	36	32	29	30	28	25	23
8	58	47	39	35	54	44	37	33	38	33	30	33	29	27	28	25	23	21
9	54	43	36	31	50	40	34	30	35	31	27	31	27	24	26	24	22	20
10	51	40	33	29	47	37	31	27	33	28	25	29	25	22	25	22	20	18

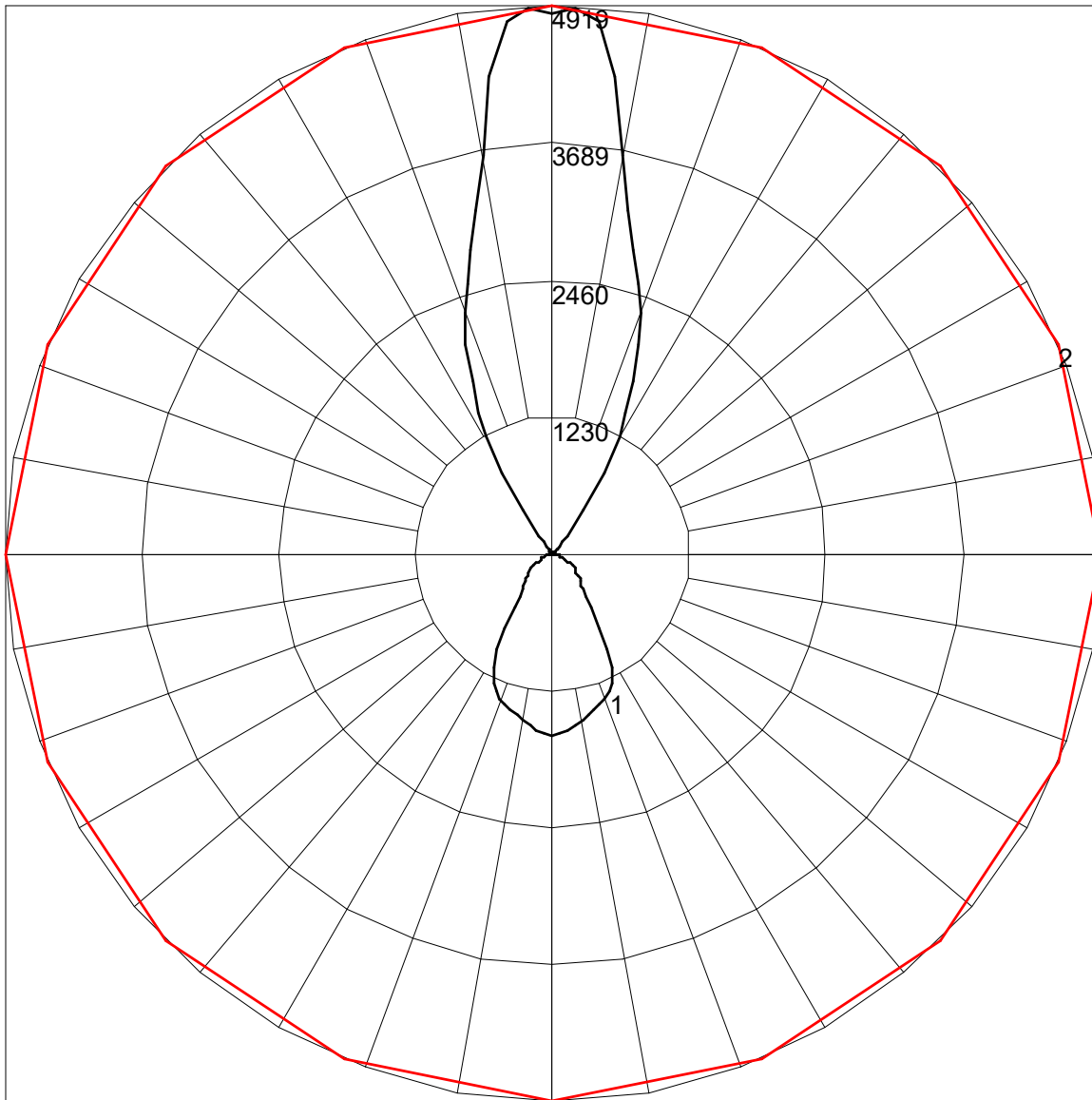
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_29\_47-MERGED.IES**

**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	16.0	16.7	17.0	17.7	19.1	16.0	16.7	17.0	17.7	19.1
	3H	16.9	17.6	17.9	18.6	19.9	16.9	17.6	17.9	18.6	19.9
	4H	17.2	17.8	18.2	18.8	20.1	17.2	17.8	18.2	18.8	20.1
	6H	17.3	17.9	18.3	18.9	20.2	17.3	17.9	18.3	18.9	20.2
	8H	17.3	17.9	18.4	18.9	20.3	17.3	17.9	18.4	18.9	20.3
	12H	17.3	17.9	18.4	18.9	20.3	17.3	17.9	18.4	18.9	20.3
4H	2H	16.3	16.9	17.3	17.9	19.3	16.3	16.9	17.3	17.9	19.3
	3H	17.4	17.9	18.4	18.9	20.3	17.4	17.9	18.4	18.9	20.3
	4H	17.7	18.1	18.7	19.2	20.6	17.7	18.1	18.7	19.2	20.6
	6H	17.9	18.3	19.0	19.4	20.7	17.9	18.3	19.0	19.4	20.7
	8H	18.0	18.4	19.0	19.4	20.8	18.0	18.4	19.0	19.4	20.8
	12H	18.0	18.4	19.1	19.4	20.8	18.0	18.4	19.1	19.4	20.8
8H	4H	17.7	18.1	18.8	19.1	20.5	17.7	18.1	18.8	19.1	20.5
	6H	18.1	18.4	19.1	19.5	20.8	18.1	18.4	19.1	19.5	20.8
	8H	18.2	18.5	19.3	19.5	20.9	18.2	18.5	19.3	19.5	20.9
	12H	18.3	18.5	19.4	19.6	21.0	18.3	18.5	19.4	19.6	21.0
12H	4H	17.7	18.0	18.8	19.1	20.5	17.7	18.0	18.8	19.1	20.5
	6H	18.0	18.3	19.1	19.4	20.8	18.0	18.3	19.1	19.4	20.8
	8H	18.2	18.4	19.3	19.5	21.0	18.2	18.4	19.3	19.5	21.0

Maximum UGR = 21.0

POLAR GRAPH



Maximum Candela = 4919.006 Located At Horizontal Angle = 0, Vertical Angle = 177.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (177.5) (Through Max. Cd.)