



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_13\_19-MERGED.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from UL #12326812.04 & #12326812.05

[TESTLAB]

[ISSUEDATE] 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-ON-CSD-WM 4000k

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

[MORE]

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

[ SEARCH\_SOURCETYPE] LED

[ SEARCH\_APPLICATION] INDOOR, DIRECT, INDIRECT

[ SEARCH\_MOUNTING] WALL

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4941
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
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	1235	1235	1235
55	468	468	468
65	159	159	159
75	0	0	0
85	0	0	0

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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>	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720
<b>2.5</b>	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086
<b>5.0</b>	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136
<b>7.5</b>	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444
<b>10.0</b>	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793
<b>12.5</b>	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985
<b>15.0</b>	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760
<b>17.5</b>	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408
<b>20.0</b>	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513
<b>22.5</b>	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437
<b>25.0</b>	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011
<b>27.5</b>	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212
<b>30.0</b>	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826	925.826
<b>32.5</b>	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633	664.633
<b>35.0</b>	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755	296.755
<b>37.5</b>	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598	46.598
<b>40.0</b>	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751	25.751
<b>42.5</b>	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846	20.846
<b>45.0</b>	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941	15.941
<b>47.5</b>	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263	12.263
<b>50.0</b>	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810	9.810
<b>52.5</b>	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131	6.131
<b>55.0</b>	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905	4.905
<b>57.5</b>	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679	3.679
<b>60.0</b>	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453
<b>62.5</b>	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453	2.453
<b>65.0</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>67.5</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>70.0</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>72.5</b>	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
<b>75.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>77.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>80.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>82.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>85.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>87.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>90.0</b>	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121
<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. 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	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720	26977.720
2.5	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086	21251.086
5.0	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136	12054.136
7.5	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444	6782.444
10.0	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793	4323.793
12.5	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985	3099.985
15.0	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760	2491.760
17.5	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408	2148.408
20.0	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513	1910.513
22.5	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437	1617.437
25.0	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011	1252.011
27.5	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212	1009.212
30.0	925.826	925.826	925.826	925.826	925.826	925.826	925.826
32.5	664.633	664.633	664.633	664.633	664.633	664.633	664.633
35.0	296.755	296.755	296.755	296.755	296.755	296.755	296.755
37.5	46.598	46.598	46.598	46.598	46.598	46.598	46.598
40.0	25.751	25.751	25.751	25.751	25.751	25.751	25.751
42.5	20.846	20.846	20.846	20.846	20.846	20.846	20.846
45.0	15.941	15.941	15.941	15.941	15.941	15.941	15.941
47.5	12.263	12.263	12.263	12.263	12.263	12.263	12.263
50.0	9.810	9.810	9.810	9.810	9.810	9.810	9.810
52.5	6.131	6.131	6.131	6.131	6.131	6.131	6.131
55.0	4.905	4.905	4.905	4.905	4.905	4.905	4.905
57.5	3.679	3.679	3.679	3.679	3.679	3.679	3.679
60.0	2.453	2.453	2.453	2.453	2.453	2.453	2.453
62.5	2.453	2.453	2.453	2.453	2.453	2.453	2.453
65.0	1.226	1.226	1.226	1.226	1.226	1.226	1.226
67.5	1.226	1.226	1.226	1.226	1.226	1.226	1.226
70.0	1.226	1.226	1.226	1.226	1.226	1.226	1.226
72.5	1.226	1.226	1.226	1.226	1.226	1.226	1.226
75.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

82.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
87.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90.0	0.121	0.121	0.121	0.121	0.121	0.121	0.121
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	1692.93	N.A.	34.30
0-30	2291.25	N.A.	46.40
0-40	2511.59	N.A.	50.80
0-60	2528.97	N.A.	51.20
0-80	2531.12	N.A.	51.20
0-90	2531.13	N.A.	51.20
10-90	1575.7	N.A.	31.90
20-40	818.66	N.A.	16.60
20-50	831.42	N.A.	16.80
40-70	19.05	N.A.	0.40
60-80	2.14	N.A.	0.00
70-80	0.48	N.A.	0.00
80-90	0.02	N.A.	0.00
90-110	1.97	N.A.	0.00
90-120	7.06	N.A.	0.10
90-130	23.22	N.A.	0.50
90-150	408.85	N.A.	8.30
90-180	2409.68	N.A.	48.80
110-180	2407.71	N.A.	48.70
0-180	4940.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	955.43
10-20	737.49
20-30	598.32
30-40	220.34
40-50	12.77
50-60	4.62
60-70	1.66
70-80	0.48
80-90	0.02
90-100	0.41
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\_13\_19-MERGED.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	101	98	95	93	94	91	89	87	78	77	75	66	65	64	55	55	54	49
2	95	90	86	82	88	84	80	77	73	71	68	63	61	60	53	52	52	47
3	90	83	78	74	84	78	74	70	69	65	63	60	58	56	52	50	49	46
4	85	77	72	67	79	73	68	64	65	61	58	57	55	53	50	48	47	44
5	80	72	66	62	75	68	63	60	61	57	55	54	52	50	48	46	45	42
6	76	68	62	58	72	64	59	56	58	54	51	52	49	47	46	45	43	41
7	73	64	58	54	69	61	56	52	55	51	49	50	47	45	45	43	42	40
8	69	60	55	51	66	58	53	49	53	49	46	48	45	43	44	42	40	38
9	66	57	52	48	63	55	50	47	50	47	44	46	43	42	42	40	39	37
10	64	55	49	46	60	53	48	45	48	45	42	45	42	40	41	39	38	36

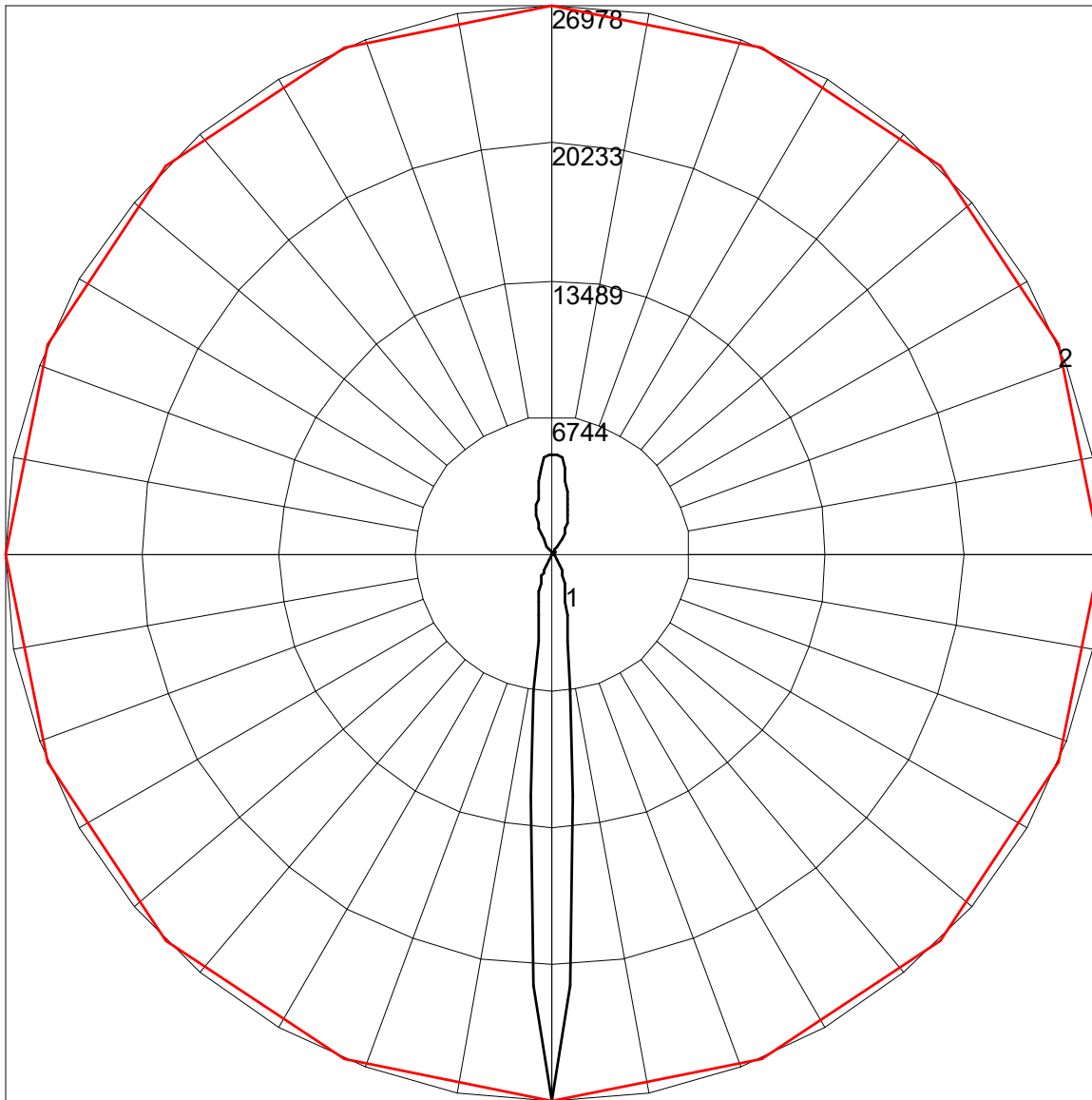
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : 192\_168\_37\_234-16\_13\_19-MERGED.IES**

**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	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
4H	2H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	3H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
8H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	12H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
12H	4H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	6H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	8H	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7

Maximum UGR = 5.7

POLAR GRAPH



Maximum Candela = 26977.72 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)