

Photometric Report - (ecs-vct4-mn(30%up)-354-unv-22h-p0w) - Page 1 of 5

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IESNA:LM-63-1995

Photopia 2.0.0.17 PHOTOMETRIC REPORT

PROJECT: ecs-vct4-mn(30%up)-354-unv-22h-p0w

OPTIONS:

Spawning 1 rays for each reaction.  
Random number generator seed: 8.  
Tracing 5 reflections.  
Stop tracing ray at 1.0% of initial magnitude.  
Tracing 499884 initial lamp rays.  
Photometric test distance of 20.00 feet.

LUMENS EXITING SYSTEM:

Lumens(%)	Reflection
798( 5.3%)	0
4194( 28.0%)	1
4145( 27.6%)	2
1285( 8.6%)	3
1047( 7.0%)	4
545( 3.6%)	5
12018( 80.1%)	Total

LUMEN INTERACTION WITH SYSTEM:

Absorbed(%)	Incident(%)	Layer Name
500( 3.3%)	7659( 51.1%)	LAMP-F54T5H01
21( 0.1%)	322( 2.2%)	LAMP-F54T5H02
752( 5.0%)	13249( 88.3%)	Refl-Poly1
83( 0.6%)	596( 4.0%)	Refl-Poly2
12( 0.1%)	12479( 83.2%)	Tran-Lens1
1369( 9.1%)	34308(228.7%)	Total

Absorbed(%)	Incident(%)	Material Name
521( 3.5%)	7982( 53.2%)	PHOSGLAS
752( 5.0%)	13249( 88.3%)	ALMIRO04
83( 0.6%)	596( 4.0%)	PAINT001
12( 0.1%)	12479( 83.2%)	POLYCRB1
1369( 9.1%)	34308(228.7%)	Total

UNACCOUNTED LUMENS:

reached interreflection limit: 1612.64 ( 10.8%)  
fell below continuation minimum: 0.00 ( 0.0%)  
could not find in/out refractor facet: 0.00 ( 0.0%)  
reached try limit for scatter bounce: 0.00 ( 0.0%)  
lost elsewhere(i.e. outside distrib): 0.00 ( 0.0%)



Candela Distribution (continued):

	225.00	247.50	270.00	292.50	315.00	337.50	360.00
0.00	3165	3165	3165	3165	3165	3165	3165
5.00	3333	3084	3100	3161	3027	3483	2861
10.00	2944	3067	3280	3145	2828	3206	2999
15.00	3200	3473	3661	3530	3261	3039	2821
20.00	3609	3959	4201	3888	3327	3060	2793
25.00	3770	4385	4677	4349	3720	3083	2644
30.00	4130	4501	4480	4622	4028	2854	2358
35.00	4208	4063	3816	4000	4154	3044	2116
40.00	3911	3314	3149	3431	3920	3100	1903
45.00	3317	2689	2458	2681	3393	3041	1643
50.00	2576	2837	3497	2828	2560	2699	1406
55.00	2329	3902	4459	3839	2357	2457	1101
60.00	2868	4801	5339	4793	2871	1956	832
65.00	3471	5067	5416	5069	3522	1547	657
70.00	3741	4672	4823	4705	3743	1430	458
75.00	3311	4124	4239	4026	3273	1512	271
80.00	2727	3427	3555	3454	2698	1265	117
85.00	2163	3013	3351	2999	2107	923	58.1
90.00	1876	2748	2921	2711	1898	569	17.3
95.00	1221	2065	2333	2158	1224	270	9.97
100.00	539	1317	1555	1281	547	64.6	54.8
105.00	162	555	701	549	163	39.0	126
110.00	70.4	130	196	144	67.2	87.0	174
115.00	58.7	62.5	46.1	65.0	64.1	183	246
120.00	32.3	89.0	100	89.9	27.5	358	299
125.00	62.9	46.0	51.2	32.5	72.4	495	351
130.00	235	38.9	16.1	27.3	241	617	384
135.00	526	77.7	30.0	82.2	498	650	432
140.00	747	456	307	437	777	745	510
145.00	807	727	724	769	819	679	507
150.00	908	926	913	935	843	696	587
155.00	935	940	960	948	912	651	611
160.00	881	947	968	945	838	678	661
165.00	737	785	876	846	779	726	708
170.00	657	722	750	627	786	739	674
175.00	790	590	733	767	686	798	695
180.00	724	724	724	724	724	724	724

Zonal Lumens		
Cone	Between	Lumens
0.0	0.0- 2.5	18.93
5.0	2.5- 7.5	134.57
10.0	7.5- 12.5	242.38
15.0	12.5- 17.5	337.58
20.0	17.5- 22.5	424.46
25.0	22.5- 27.5	517.13
30.0	27.5- 32.5	595.12
35.0	32.5- 37.5	630.29
40.0	37.5- 42.5	625.18
45.0	42.5- 47.5	589.31
50.0	47.5- 52.5	597.37
55.0	52.5- 57.5	678.36
60.0	57.5- 62.5	780.95
65.0	62.5- 67.5	835.54
70.0	67.5- 72.5	822.14
75.0	72.5- 77.5	747.04
80.0	77.5- 82.5	631.50
85.0	82.5- 87.5	531.29
90.0	87.5- 92.5	457.58
95.0	92.5- 97.5	325.80
100.0	97.5-102.5	186.52
105.0	102.5-107.5	84.42
110.0	107.5-112.5	41.56
115.0	112.5-117.5	41.92
120.0	117.5-122.5	56.46
125.0	122.5-127.5	64.65
130.0	127.5-132.5	76.49
135.0	132.5-137.5	94.32
140.0	137.5-142.5	130.30
145.0	142.5-147.5	146.15
150.0	147.5-152.5	143.69
155.0	152.5-157.5	130.65
160.0	157.5-162.5	111.62
165.0	162.5-167.5	89.71
170.0	167.5-172.5	61.10
175.0	172.5-177.5	31.67
180.0	177.5-180.0	4.33

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0- 30	1961	13.1	16.3
0- 40	3205	21.4	26.7
0- 60	5776	38.5	48.1
0- 90	9968	66.5	82.9
90-120	938	6.3	7.8
90-130	1069	7.1	8.9
90-150	1552	10.3	12.9
90-180	2050	13.7	17.1
0-180	12018	80.1	100.0

Total Luminaire Optical Efficiency = 80.1%

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Luminaire Spacing Criterion:

0 deg	90 deg	180 deg	270 deg
1.12	0.29	1.15	1.60

Average Luminaire Luminance (cd/m<sup>2</sup>):

	0	45	90	135	180
0	11263.82	11263.82	11263.82	11263.82	11263.82
45	6952.32	32.42	0.00	32.37	7002.90
50	6350.48	12.91	0.00	10.09	6036.11
55	5377.83	7.30	0.00	2.59	5805.23
60	4459.91	0.00	0.00	0.00	4545.63
65	3938.84	0.00	0.00	0.00	3722.98
70	3137.85	2.33	0.00	2.51	3351.22
75	2186.31	0.00	0.00	0.00	2381.32
80	1157.46	5.44	2.18	2.38	1281.97
85	749.97	0.00	0.00	0.00	664.71

Coefficients of Utilization - Zonal Cavity Method:

pfc = 0.20

pcc	.8				.7				.5				.3				.1				0
pw	.7	.5	.3	.1	.7	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	.5	.3	.1	0
RCR																					
0	92	92	92	92	88	88	88	88	81	81	81	75	75	75	69	69	69	66	66	66	66
1	80	75	70	66	76	72	68	64	66	62	59	60	57	55	55	53	51	48	48	48	48
2	71	63	57	51	68	61	54	49	55	50	46	51	47	43	46	43	40	37	37	37	37
3	64	54	47	41	61	52	45	40	48	42	37	44	39	35	40	36	32	30	30	30	30
4	58	48	40	34	55	46	38	33	42	36	31	38	33	29	35	31	27	25	25	25	25
5	53	42	34	28	51	40	33	28	37	31	26	34	29	25	31	27	23	21	21	21	21
6	49	38	30	24	47	36	29	24	33	27	23	31	25	21	28	24	20	18	18	18	18
7	45	34	27	21	43	33	26	21	30	24	20	28	23	19	26	21	18	16	16	16	16
8	42	31	24	19	40	30	23	18	28	22	17	25	20	17	24	19	16	14	14	14	14
9	39	28	21	17	38	27	21	16	25	20	16	23	18	15	22	17	14	12	12	12	12
10	37	26	19	15	35	25	19	15	23	18	14	22	17	13	20	16	13	11	11	11	11