



IES INDOOR REPORT
PHOTOMETRIC FILENAME : A1-ZYZY-STN-35K-F-4W.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 2021-0329
[TESTLAB] ALUZ
[ISSUE DATE] 2021-0329
[MANUFAC] ALUZ
[LUMCAT] A1-ZYZY-STN-35K-F-4W
[LUMINAIRE] A1-ZYZY-STN-35K-F-4W
[LAMP CAT] A1-ZYZY-STN-35K-F-4W
[LAMP] A1-ZYZY-STN-35K-F-4W

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	425
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.16 ft
Luminous Width (90-270)	1.00 ft
Luminous Height	0.16 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4808	5262	8164
55	3865	4299	7487
65	2806	3172	6395
75	1552	1833	4519
85	23	84	1525

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CANDELA TABULATION

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324
3	146.546	145.907	145.995	145.964	146.096	146.223	146.045	146.077	146.073	146.134
6	145.922	145.337	145.250	145.310	145.700	145.586	145.320	145.345	145.463	145.504
9	145.046	144.312	144.352	144.165	144.590	144.551	144.406	144.416	144.422	144.331
12	143.565	142.823	142.897	142.687	142.937	143.110	142.917	142.931	142.913	143.118
15	141.545	140.933	140.893	140.852	141.061	141.187	140.945	141.039	141.092	141.119
18	139.331	138.586	138.572	138.478	138.815	138.794	138.863	138.683	138.826	138.829
21	136.361	135.797	135.717	135.789	136.217	135.998	136.097	135.934	136.127	136.112
24	133.168	132.537	132.549	132.653	132.930	132.941	133.009	132.834	132.992	132.969
27	129.872	129.071	129.060	129.119	129.455	129.487	129.497	129.366	129.461	129.464
30	125.949	124.953	125.110	125.207	125.540	125.498	125.480	125.504	125.596	125.594
33	121.550	120.849	120.832	120.874	121.264	121.289	121.261	121.172	121.282	121.337
36	116.738	116.162	116.254	116.302	116.645	116.532	116.650	116.573	116.764	116.761
39	111.742	111.236	111.249	111.323	111.683	111.552	111.742	111.664	111.790	111.745
42	106.685	105.892	106.011	106.034	106.357	106.326	106.454	106.346	106.523	106.462
45	100.883	100.178	100.406	100.412	100.820	100.725	100.828	100.798	100.832	100.892
48	94.860	94.223	94.433	94.405	94.814	94.674	94.883	94.755	94.799	94.835
51	88.550	87.744	88.197	88.016	88.492	88.303	88.555	88.302	88.566	88.433
54	82.004	81.198	81.544	81.375	81.849	81.626	81.938	81.626	81.931	81.737
57	74.788	74.331	74.502	74.428	74.909	74.672	74.984	74.704	75.029	74.735
60	67.613	66.899	67.295	67.116	67.586	67.316	67.586	67.339	67.568	67.358
63	59.975	59.409	59.704	59.718	59.995	59.747	59.924	59.684	59.912	59.750
66	52.431	51.648	52.041	51.908	52.203	51.925	52.268	51.970	52.152	51.951
69	44.402	43.754	44.184	44.020	44.331	44.056	44.345	43.945	44.185	43.942
72	36.392	35.853	36.317	35.966	36.398	35.981	36.370	35.963	36.227	35.881
75	27.898	27.684	28.248	28.177	28.521	28.217	28.499	28.046	28.163	28.000
78	20.357	19.218	20.172	20.109	20.614	20.729	20.953	20.627	20.645	20.444
81	0.815	2.267	5.743	7.590	12.061	13.214	13.918	13.487	13.613	13.253
84	0.470	0.377	0.640	0.605	0.795	2.186	6.289	7.414	7.595	7.164
87	0.170	0.155	0.229	0.296	0.316	0.363	0.496	1.386	2.635	2.486
90	0.065	0.078	0.055	0.024	0.059	0.060	0.082	0.049	0.095	0.166

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324
3	146.073	146.077	146.045	146.223	146.096	145.964	145.995	145.907	146.546	145.907
6	145.463	145.345	145.320	145.586	145.700	145.310	145.250	145.337	145.922	145.337
9	144.422	144.416	144.406	144.551	144.590	144.165	144.352	144.312	145.046	144.312
12	142.913	142.931	142.917	143.110	142.937	142.687	142.897	142.823	143.565	142.823
15	141.092	141.039	140.945	141.187	141.061	140.852	140.893	140.933	141.545	140.933
18	138.826	138.683	138.863	138.794	138.815	138.478	138.572	138.586	139.331	138.586
21	136.127	135.934	136.097	135.998	136.217	135.789	135.717	135.797	136.361	135.797
24	132.992	132.834	133.009	132.941	132.930	132.653	132.549	132.537	133.168	132.537
27	129.461	129.366	129.497	129.487	129.455	129.119	129.060	129.071	129.872	129.071
30	125.596	125.504	125.480	125.498	125.540	125.207	125.110	124.953	125.949	124.953
33	121.282	121.172	121.261	121.289	121.264	120.874	120.832	120.849	121.550	120.849
36	116.764	116.573	116.650	116.532	116.645	116.302	116.254	116.162	116.738	116.162
39	111.790	111.664	111.742	111.552	111.683	111.323	111.249	111.236	111.742	111.236
42	106.523	106.346	106.454	106.326	106.357	106.034	106.011	105.892	106.685	105.892
45	100.832	100.798	100.828	100.725	100.820	100.412	100.406	100.178	100.883	100.178
48	94.799	94.755	94.883	94.674	94.814	94.405	94.433	94.223	94.860	94.223
51	88.566	88.302	88.555	88.303	88.492	88.016	88.197	87.744	88.550	87.744
54	81.931	81.626	81.938	81.626	81.849	81.375	81.544	81.198	82.004	81.198

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CANDELA TABULATION - (Cont.)

57	75.029	74.704	74.984	74.672	74.909	74.428	74.502	74.331	74.788	74.331
60	67.568	67.339	67.586	67.316	67.586	67.116	67.295	66.899	67.613	66.899
63	59.912	59.684	59.924	59.747	59.995	59.718	59.704	59.409	59.975	59.409
66	52.152	51.970	52.268	51.925	52.203	51.908	52.041	51.648	52.431	51.648
69	44.185	43.945	44.345	44.056	44.331	44.020	44.184	43.754	44.402	43.754
72	36.227	35.963	36.370	35.981	36.398	35.966	36.317	35.853	36.392	35.853
75	28.163	28.046	28.499	28.217	28.521	28.177	28.248	27.684	27.898	27.684
78	20.645	20.627	20.953	20.729	20.614	20.109	20.172	19.218	20.357	19.218
81	13.613	13.487	13.918	13.214	12.061	7.590	5.743	2.267	0.815	2.267
84	7.595	7.414	6.289	2.186	0.795	0.605	0.640	0.377	0.470	0.377
87	2.635	1.386	0.496	0.363	0.316	0.296	0.229	0.155	0.170	0.155
90	0.095	0.049	0.082	0.060	0.059	0.024	0.055	0.078	0.065	0.078

Vert. Angles **Horizontal Angles**

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324	146.324
3	145.995	145.964	146.096	146.223	146.045	146.077	146.073	146.134	146.073	146.077
6	145.250	145.310	145.700	145.586	145.320	145.345	145.463	145.504	145.463	145.345
9	144.352	144.165	144.590	144.551	144.406	144.416	144.422	144.331	144.422	144.416
12	142.897	142.687	142.937	143.110	142.917	142.931	142.913	143.118	142.913	142.931
15	140.893	140.852	141.061	141.187	140.945	141.039	141.092	141.119	141.092	141.039
18	138.572	138.478	138.815	138.794	138.863	138.683	138.826	138.829	138.826	138.683
21	135.717	135.789	136.217	135.998	136.097	135.934	136.127	136.112	136.127	135.934
24	132.549	132.653	132.930	132.941	133.009	132.834	132.992	132.969	132.992	132.834
27	129.060	129.119	129.455	129.487	129.497	129.366	129.461	129.464	129.461	129.366
30	125.110	125.207	125.540	125.498	125.480	125.504	125.596	125.594	125.596	125.504
33	120.832	120.874	121.264	121.289	121.261	121.172	121.282	121.337	121.282	121.172
36	116.254	116.302	116.645	116.532	116.650	116.573	116.764	116.761	116.764	116.573
39	111.249	111.323	111.683	111.552	111.742	111.664	111.790	111.745	111.790	111.664
42	106.011	106.034	106.357	106.326	106.454	106.346	106.523	106.462	106.523	106.346
45	100.406	100.412	100.820	100.725	100.828	100.798	100.832	100.892	100.832	100.798
48	94.433	94.405	94.814	94.674	94.883	94.755	94.799	94.835	94.799	94.755
51	88.197	88.016	88.492	88.303	88.555	88.302	88.566	88.433	88.566	88.302
54	81.544	81.375	81.849	81.626	81.938	81.626	81.931	81.737	81.931	81.626
57	74.502	74.428	74.909	74.672	74.984	74.704	75.029	74.735	75.029	74.704
60	67.295	67.116	67.586	67.316	67.586	67.339	67.568	67.358	67.568	67.339
63	59.704	59.718	59.995	59.747	59.924	59.684	59.912	59.750	59.912	59.684
66	52.041	51.908	52.203	51.925	52.268	51.970	52.152	51.951	52.152	51.970
69	44.184	44.020	44.331	44.056	44.345	43.945	44.185	43.942	44.185	43.945
72	36.317	35.966	36.398	35.981	36.370	35.963	36.227	35.881	36.227	35.963
75	28.248	28.177	28.521	28.217	28.499	28.046	28.163	28.000	28.163	28.046
78	20.172	20.109	20.614	20.729	20.953	20.627	20.645	20.444	20.645	20.627
81	5.743	7.590	12.061	13.214	13.918	13.487	13.613	13.253	13.613	13.487
84	0.640	0.605	0.795	2.186	6.289	7.414	7.595	7.164	7.595	7.414
87	0.229	0.296	0.316	0.363	0.496	1.386	2.635	2.486	2.635	1.386
90	0.055	0.024	0.059	0.060	0.082	0.049	0.095	0.166	0.095	0.049

Vert. Angles **Horizontal Angles**

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	146.324	146.324	146.324	146.324	146.324	146.324	146.324
3	146.045	146.223	146.096	145.964	145.995	145.907	146.546
6	145.320	145.586	145.700	145.310	145.250	145.337	145.922
9	144.406	144.551	144.590	144.165	144.352	144.312	145.046
12	142.917	143.110	142.937	142.687	142.897	142.823	143.565

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CANDELA TABULATION - (Cont.)

15	140.945	141.187	141.061	140.852	140.893	140.933	141.545
18	138.863	138.794	138.815	138.478	138.572	138.586	139.331
21	136.097	135.998	136.217	135.789	135.717	135.797	136.361
24	133.009	132.941	132.930	132.653	132.549	132.537	133.168
27	129.497	129.487	129.455	129.119	129.060	129.071	129.872
30	125.480	125.498	125.540	125.207	125.110	124.953	125.949
33	121.261	121.289	121.264	120.874	120.832	120.849	121.550
36	116.650	116.532	116.645	116.302	116.254	116.162	116.738
39	111.742	111.552	111.683	111.323	111.249	111.236	111.742
42	106.454	106.326	106.357	106.034	106.011	105.892	106.685
45	100.828	100.725	100.820	100.412	100.406	100.178	100.883
48	94.883	94.674	94.814	94.405	94.433	94.223	94.860
51	88.555	88.303	88.492	88.016	88.197	87.744	88.550
54	81.938	81.626	81.849	81.375	81.544	81.198	82.004
57	74.984	74.672	74.909	74.428	74.502	74.331	74.788
60	67.586	67.316	67.586	67.116	67.295	66.899	67.613
63	59.924	59.747	59.995	59.718	59.704	59.409	59.975
66	52.268	51.925	52.203	51.908	52.041	51.648	52.431
69	44.345	44.056	44.331	44.020	44.184	43.754	44.402
72	36.370	35.981	36.398	35.966	36.317	35.853	36.392
75	28.499	28.217	28.521	28.177	28.248	27.684	27.898
78	20.953	20.729	20.614	20.109	20.172	19.218	20.357
81	13.918	13.214	12.061	7.590	5.743	2.267	0.815
84	6.289	2.186	0.795	0.605	0.640	0.377	0.470
87	0.496	0.363	0.316	0.296	0.229	0.155	0.170
90	0.082	0.060	0.059	0.024	0.055	0.078	0.065

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	43.83	N.A.	10.30
0-30	114.39	N.A.	26.90
0-40	180.56	N.A.	42.50
0-60	336.73	N.A.	79.30
0-80	416.66	N.A.	98.10
0-90	424.52	N.A.	100.00
10-90	413.27	N.A.	97.40
20-40	136.73	N.A.	32.20
20-50	206.72	N.A.	48.70
40-70	205.75	N.A.	48.50
60-80	79.93	N.A.	18.80
70-80	30.35	N.A.	7.10
80-90	7.86	N.A.	1.90
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	424.52	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	11.24
10-20	32.59
20-30	70.56
30-40	66.16
40-50	70.00
50-60	86.17
60-70	49.58
70-80	30.35
80-90	7.86
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

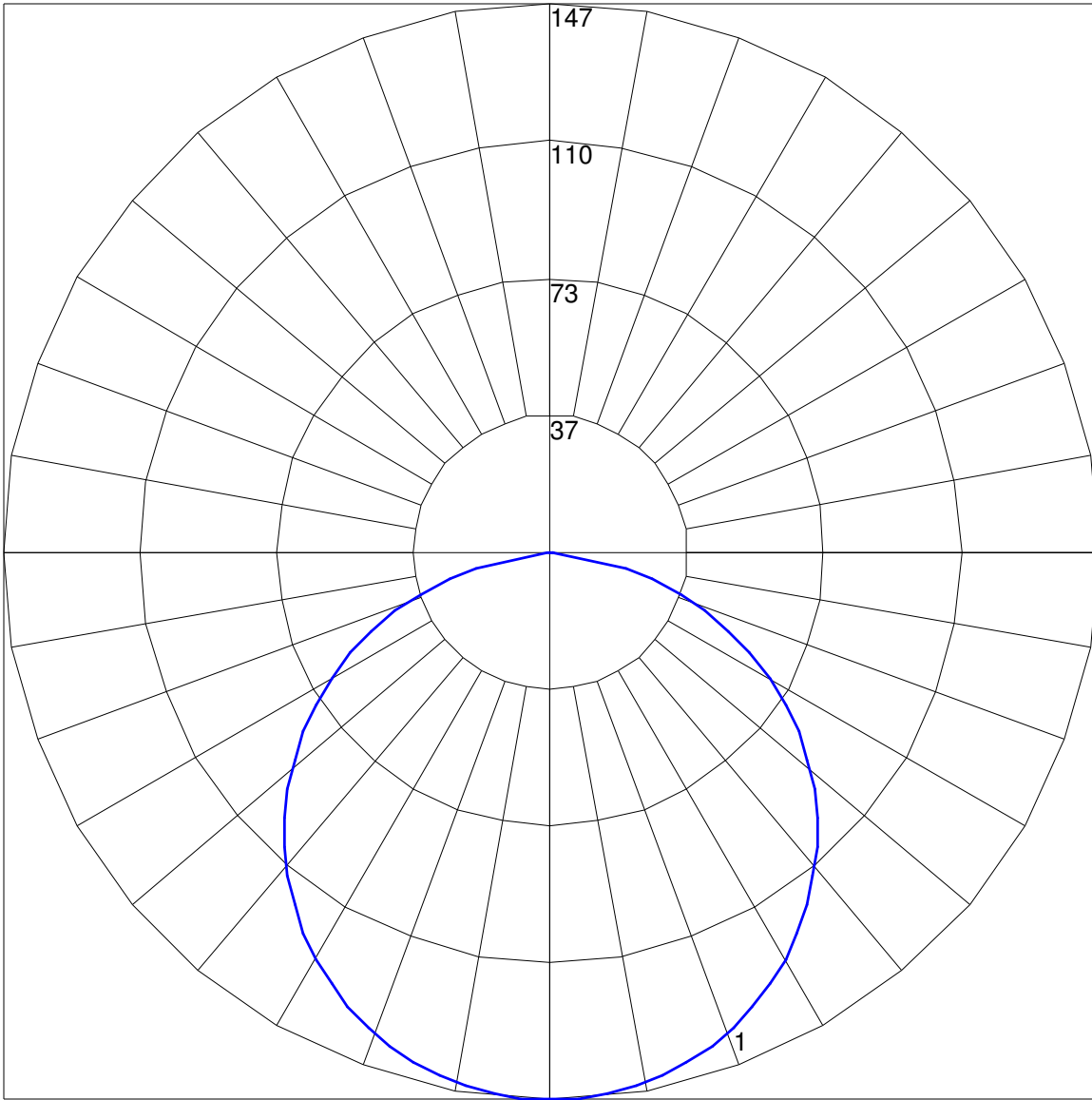
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	57
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49
5	75	62	52	46	73	60	52	45	58	51	45	56	50	44	54	49	44	42
6	69	55	46	40	67	54	46	39	52	45	39	51	44	39	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

POLAR GRAPH



Maximum Candela = 146.546 Located At Horizontal Angle = 0, Vertical Angle = 3
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)