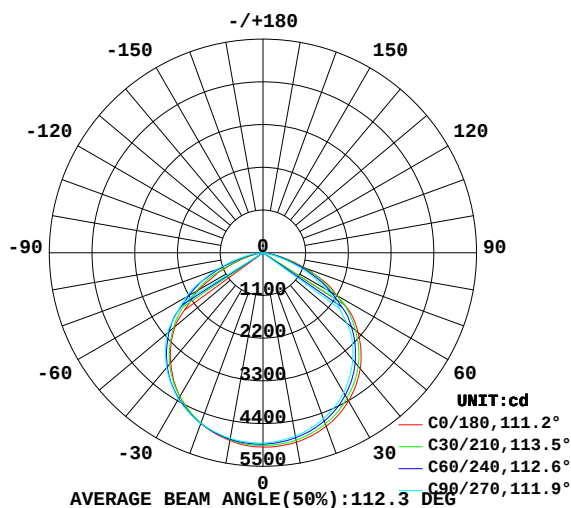


LUMINAIRE PHOTOMETRIC TEST REPORT

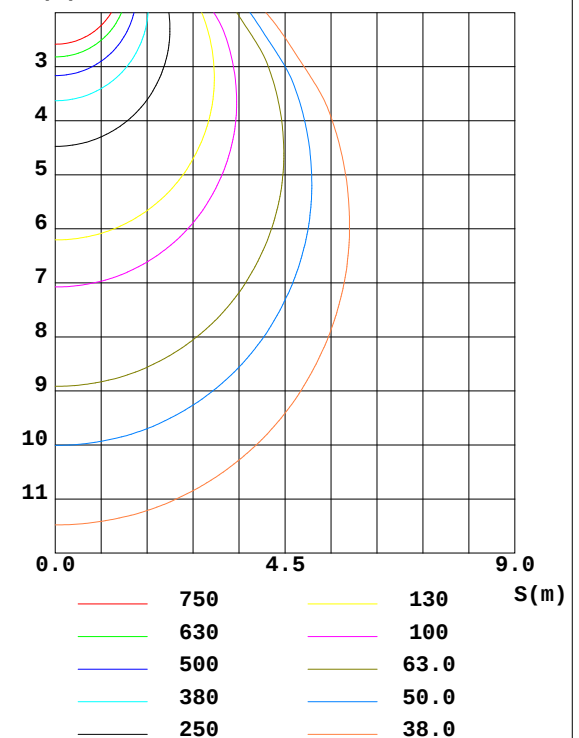
Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6lx1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.59 lm/W			
MODEL	F2136-100W	I _{max} (cd)	5006	S/MH(C0/180)	1.31
NOMINAL POWER(W)	104	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	232	TOTAL FLUX(lm)	13796	η UP, DN(C0-180)	0.8, 47.4
NOMINAL FLUX(lm)	13795.6	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.9, 50.8
LAMPS INSIDE	1	η up(%)	1.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	232.0	η down(%)	98.2	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7312]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	4953	4870	4795	4750	4911	4881	4853	4824	0- 10	466.1	466.1	3.38, 3.38
20	4756	4652	4550	4492	4675	4674	4676	4658	10- 20	1344	1810	13.1, 13.1
30	4404	4278	4157	4083	4275	4307	4352	4344	20- 30	2061	3871	28.1, 28.1
40	3897	3754	3598	3506	3699	3787	3860	3881	30- 40	2518	6389	46.3, 46.3
50	3198	3044	2820	2762	2958	3081	3206	3239	40- 50	2629	9018	65.4, 65.4
60	2198	2102	1883	1759	1924	2091	2284	2388	50- 60	2301	11318	82, 82
70	1162	1043	845.8	693.7	845.0	1062	1280	1353	60- 70	1543	12861	93.2, 93.2
80	266.1	196.7	106.3	78.15	129.5	206.7	327.8	376.4	70- 80	607.5	13469	97.6, 97.6
90	24.24	22.71	22.58	23.12	27.07	26.97	26.80	32.03	80- 90	83.88	13553	98.2, 98.2
100	25.58	25.98	26.60	26.78	31.04	29.86	28.66	28.19	90-100	28.29	13581	98.4, 98.4
110	30.30	30.78	31.59	31.61	36.11	34.70	33.34	32.82	100-110	31.86	13613	98.7, 98.7
120	35.32	35.98	36.41	36.69	41.03	39.35	38.20	37.49	110-120	34.82	13648	98.9, 98.9
130	39.83	40.72	40.84	41.36	45.59	43.79	42.54	41.99	120-130	35.66	13683	99.2, 99.2
140	44.30	45.46	45.32	46.00	50.34	48.41	47.19	46.56	130-140	34.27	13718	99.4, 99.4
150	49.55	50.21	50.28	50.32	55.98	53.84	52.72	51.94	140-150	30.84	13749	99.7, 99.7
160	55.20	54.98	55.35	54.60	60.24	57.89	57.25	56.17	150-160	24.98	13773	99.8, 99.8
170	59.66	59.06	59.16	58.11	62.53	60.59	60.01	59.13	160-170	16.42	13790	100, 100
180	60.78	59.41	59.48	58.35	61.25	59.36	59.22	58.36	170-180	5.688	13796	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

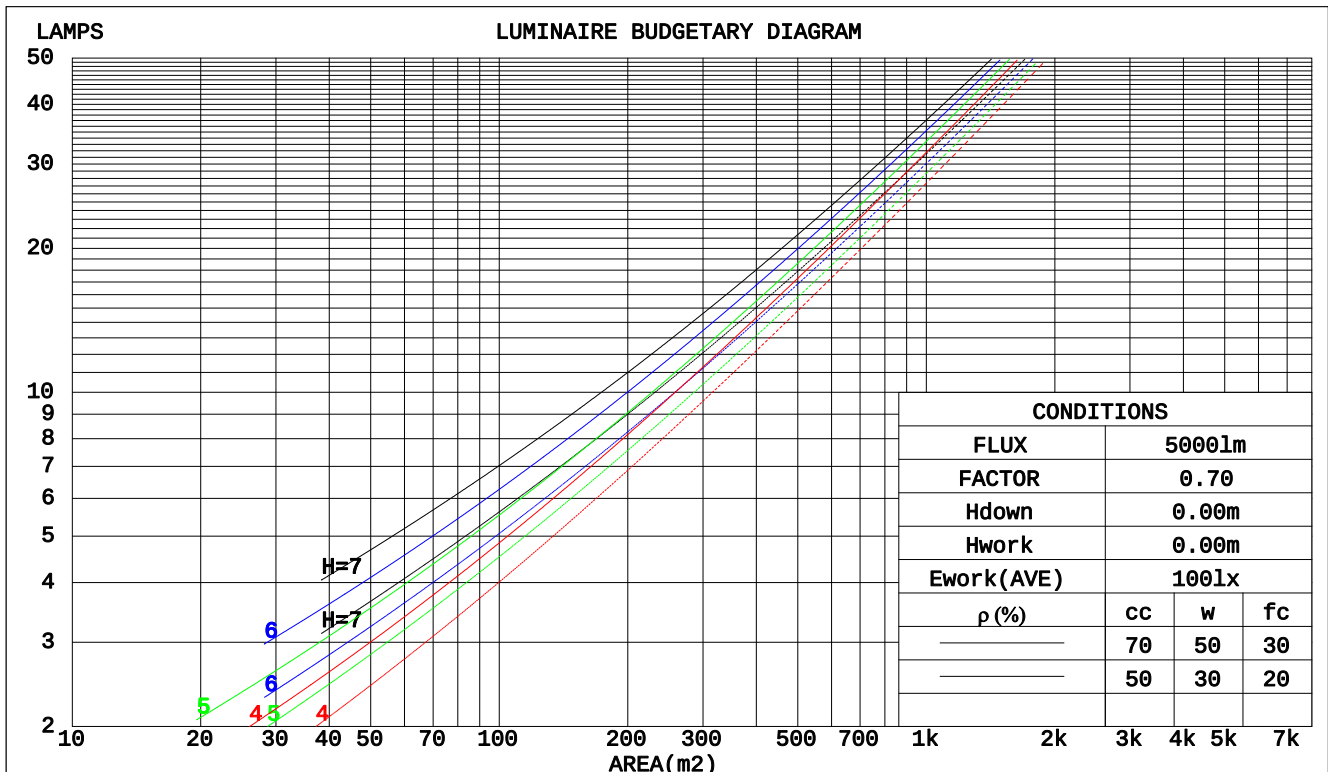
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-05-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7312]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.05	1.01	.97	1.02	.99	.96	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.92	.86	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.79	.76	.73	.71
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.73	.68	.64	.70	.66	.62	.60
4.0	.72	.63	.57	.70	.63	.56	.68	.61	.56	.65	.59	.55	.63	.58	.54	.51
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.53	.47	.42	.51	.46	.41	.39
7.0	.52	.44	.38	.52	.43	.38	.50	.43	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.48	.39	.34	.47	.39	.34	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.29	.28
10.0	.40	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-05-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7312]
 Remarks:

WEC AND CCEC

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm									
NAME: F2136-100W					TYPE:			WEIGHT:	
DIM.:					SPEC.:			SERIAL No.:	
MFR.:					SUR.:0.6*0.6			PROTECTION ANGLE:	

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.282	.160	.051	.274	.157	.050	.260	.149	.048	.247	.143	.046	.235	.136	.044		
2.0	.273	.149	.046	.266	.146	.045	.254	.141	.044	.242	.136	.042	.231	.131	.041		
3.0	.256	.136	.041	.250	.134	.040	.239	.130	.039	.229	.126	.039	.220	.122	.038		
4.0	.239	.124	.037	.234	.122	.036	.224	.119	.035	.215	.115	.035	.206	.112	.034		
5.0	.223	.114	.033	.218	.112	.033	.209	.109	.032	.201	.106	.032	.194	.103	.031		
6.0	.208	.104	.030	.204	.103	.030	.196	.100	.029	.188	.098	.029	.182	.096	.028		
7.0	.194	.096	.027	.190	.095	.027	.183	.093	.027	.177	.091	.026	.171	.089	.026		
8.0	.182	.089	.025	.179	.088	.025	.172	.086	.025	.166	.084	.024	.161	.082	.024		
9.0	.171	.083	.023	.168	.082	.023	.162	.080	.023	.157	.079	.022	.152	.077	.022		
10.0	.161	.077	.021	.158	.076	.021	.153	.075	.021	.148	.074	.021	.144	.072	.021		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.204	.204	.204	.174	.174	.174	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.192	.170	.150	.164	.146	.129	.112	.100	.089	.065	.058	.052	.021	.019	.017	
2.0	.183	.146	.114	.157	.125	.098	.108	.087	.069	.062	.050	.040	.020	.016	.013	
3.0	.176	.128	.090	.150	.110	.078	.103	.077	.055	.060	.045	.032	.019	.015	.011	
4.0	.168	.115	.074	.144	.099	.064	.099	.069	.045	.057	.040	.027	.018	.013	.009	
5.0	.161	.104	.062	.138	.090	.054	.095	.063	.038	.055	.037	.023	.018	.012	.007	
6.0	.154	.096	.054	.132	.083	.047	.091	.058	.033	.053	.034	.020	.017	.011	.007	
7.0	.148	.089	.048	.127	.077	.042	.088	.054	.029	.051	.032	.018	.016	.010	.006	
8.0	.141	.083	.043	.122	.072	.038	.084	.051	.027	.049	.030	.016	.016	.010	.005	
9.0	.135	.078	.039	.117	.068	.034	.081	.048	.024	.047	.028	.015	.015	.009	.005	
10.0	.130	.074	.037	.112	.064	.032	.078	.045	.023	.045	.027	.014	.015	.009	.004	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

Uncorrected UGR Table

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm											
NAME: F2136-100W					TYPE:			WEIGHT:			
DIM.:					SPEC.:			SERIAL No.:			
MFR.:					SUR.:0.6*0.6			PROTECTION ANGLE:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	2H	21.9	23.4	22.2	23.6	23.8	21.3	22.7	21.6	23.0	23.2
	3H	23.0	24.4	23.4	24.6	24.9	22.2	23.5	22.5	23.8	24.0
	4H	23.3	24.6	23.7	24.9	25.2	22.3	23.6	22.6	23.8	24.1
	6H	23.4	24.6	23.8	24.9	25.2	22.3	23.5	22.6	23.8	24.1
	8H	23.4	24.5	23.8	24.8	25.2	22.2	23.4	22.6	23.7	24.0
	12H	23.3	24.4	23.7	24.8	25.1	22.2	23.3	22.5	23.6	23.9
4H	2H	22.4	23.6	22.7	23.9	24.2	21.8	23.1	22.2	23.4	23.7
	3H	23.6	24.7	24.0	25.0	25.4	22.9	24.0	23.2	24.3	24.6
	4H	24.0	25.0	24.4	25.3	25.7	23.0	24.0	23.4	24.4	24.8
	6H	24.1	25.0	24.5	25.4	25.8	23.0	23.9	23.5	24.3	24.7
	8H	24.1	24.9	24.5	25.3	25.7	23.0	23.8	23.4	24.2	24.6
	12H	24.1	24.8	24.5	25.2	25.7	23.0	23.7	23.4	24.1	24.6
8H	4H	24.0	24.8	24.4	25.2	25.6	23.1	23.9	23.6	24.3	24.8
	6H	24.2	24.8	24.6	25.3	25.7	23.2	23.8	23.6	24.3	24.7
	8H	24.2	24.8	24.7	25.2	25.7	23.1	23.7	23.6	24.2	24.7
	12H	24.2	24.7	24.7	25.2	25.7	23.1	23.6	23.6	24.1	24.6
12H	4H	23.9	24.7	24.4	25.1	25.5	23.1	23.8	23.6	24.3	24.7
	6H	24.1	24.7	24.6	25.2	25.7	23.1	23.7	23.6	24.2	24.7
	8H	24.2	24.7	24.7	25.1	25.7	23.1	23.6	23.6	24.1	24.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4					
1.5H	+ 0.3 / - 0.5					+ 0.3 / - 0.5					
2.0H	+ 0.5 / - 0.6					+ 0.4 / - 0.7					

CIE Pub.117 Corrected 13796 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.1)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:

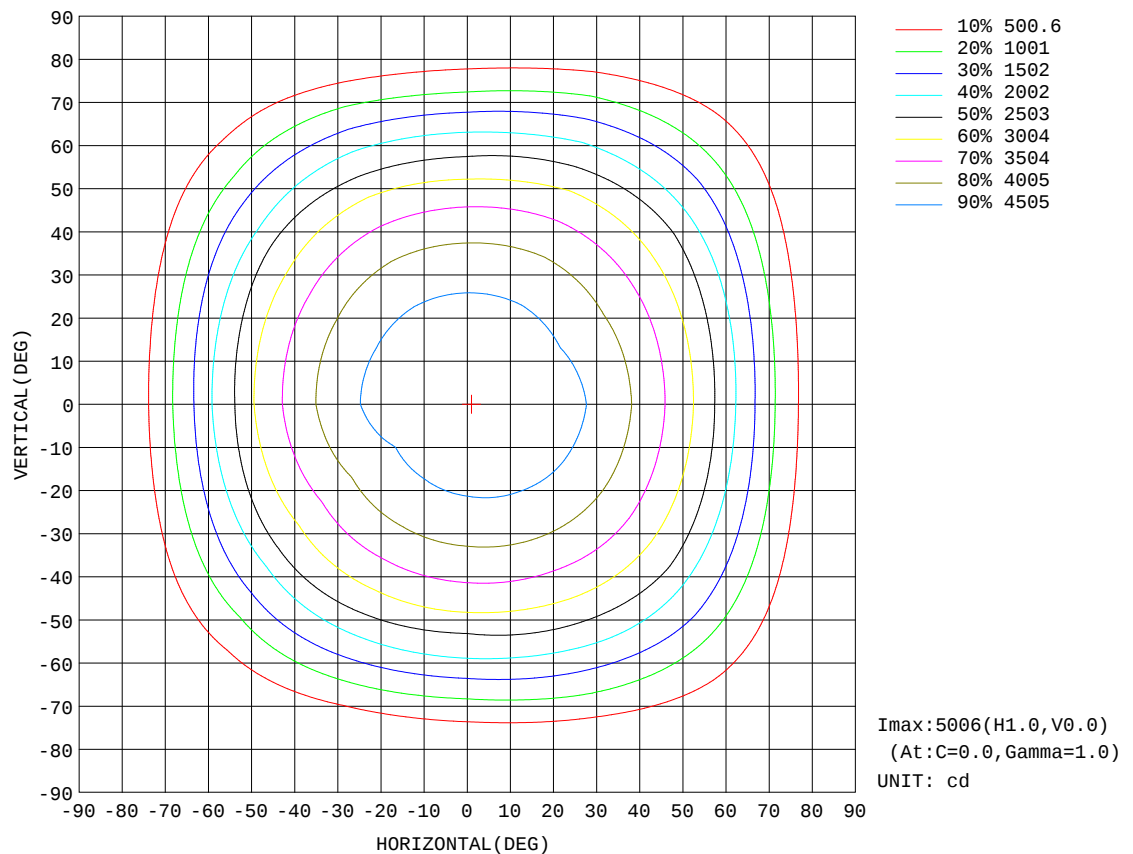
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	57	46	40	56	46	39	33
0.80	68	57	50	67	57	50	66	56	49	42
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	84	77	72	64
2.00	96	88	82	94	87	81	91	84	79	72
2.50	100	93	87	98	91	86	94	88	84	75
3.00	103	97	92	101	95	90	97	92	88	79
4.00	107	102	97	104	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

ISOCANDELA DIAGRAM

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:

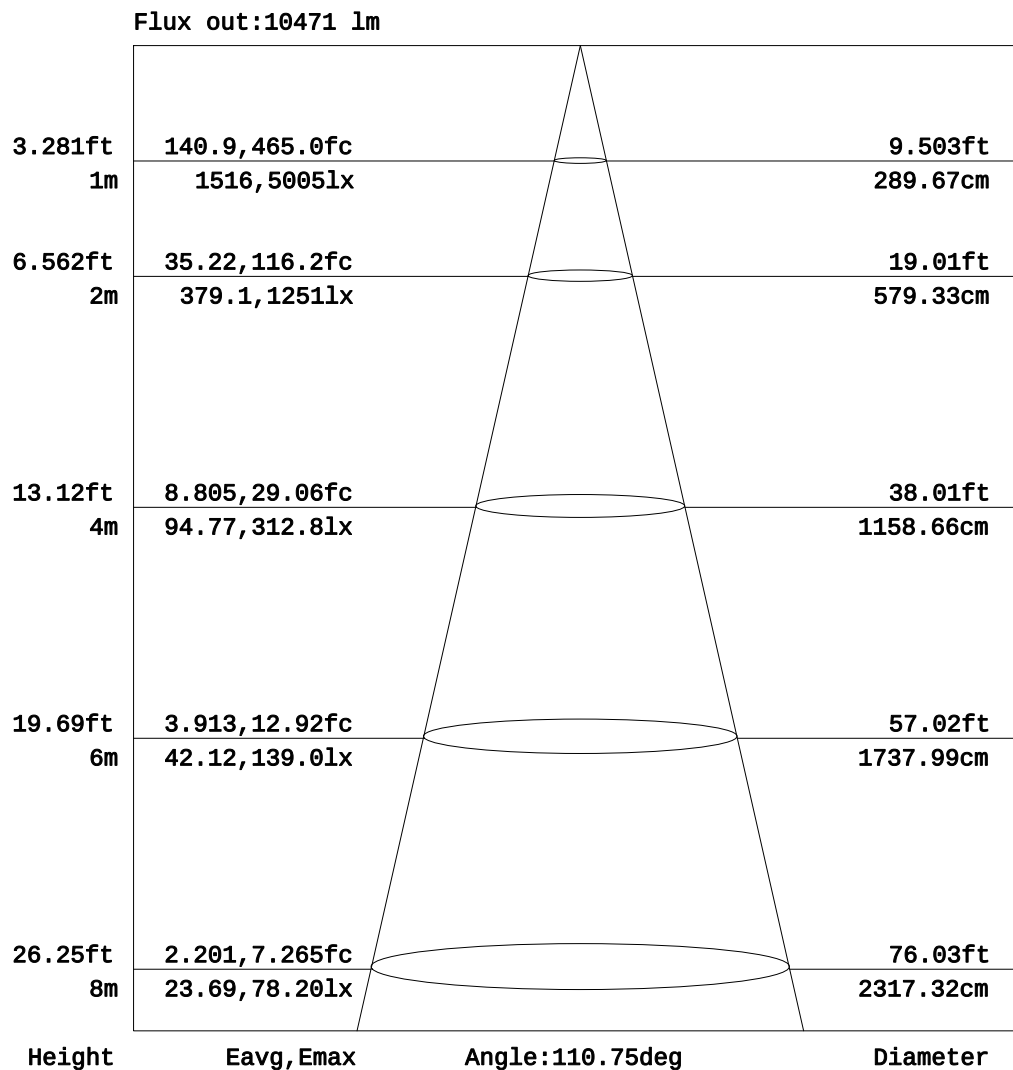


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

AAI Figure

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:



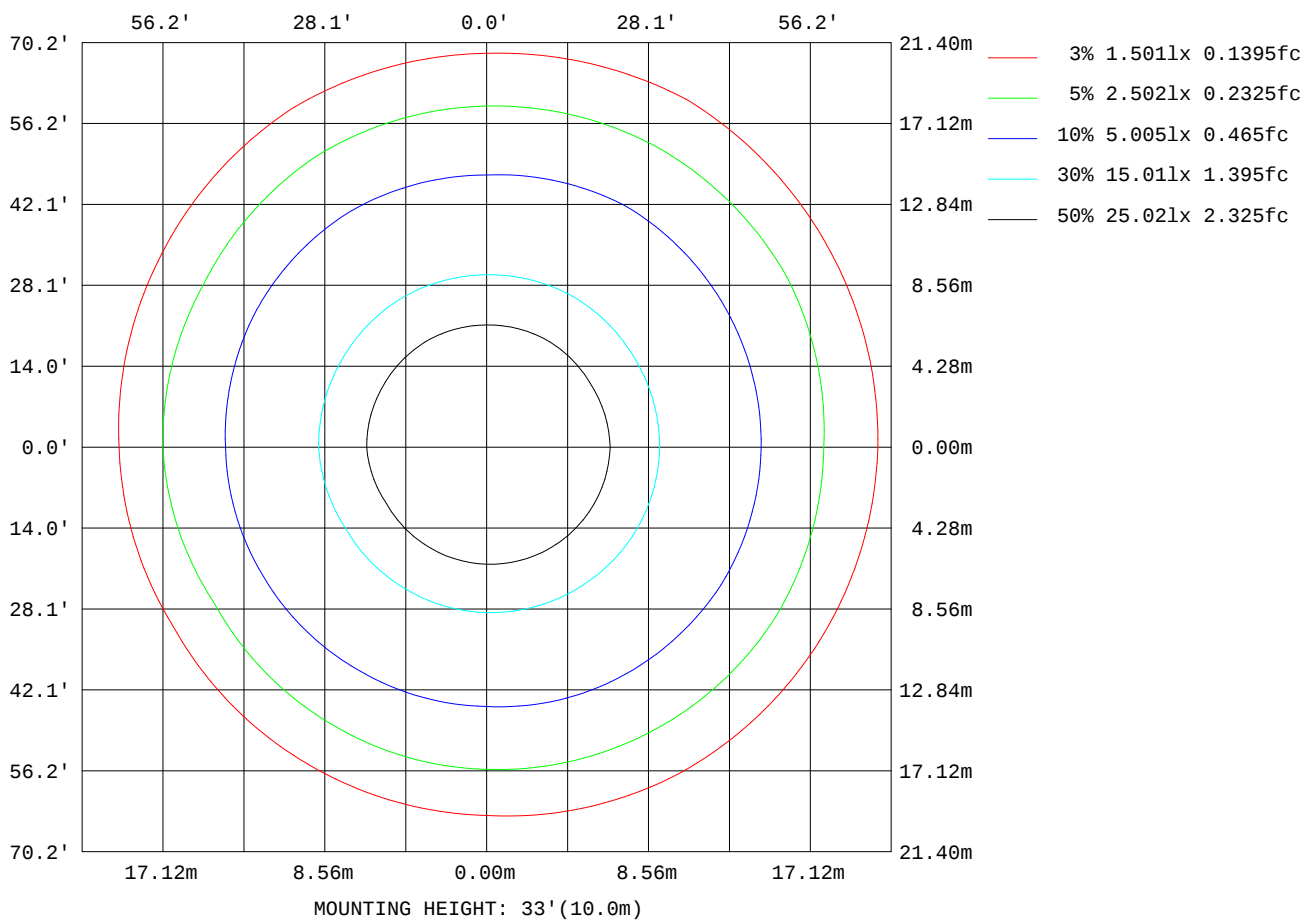
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

ISOLUX DIAGRAM

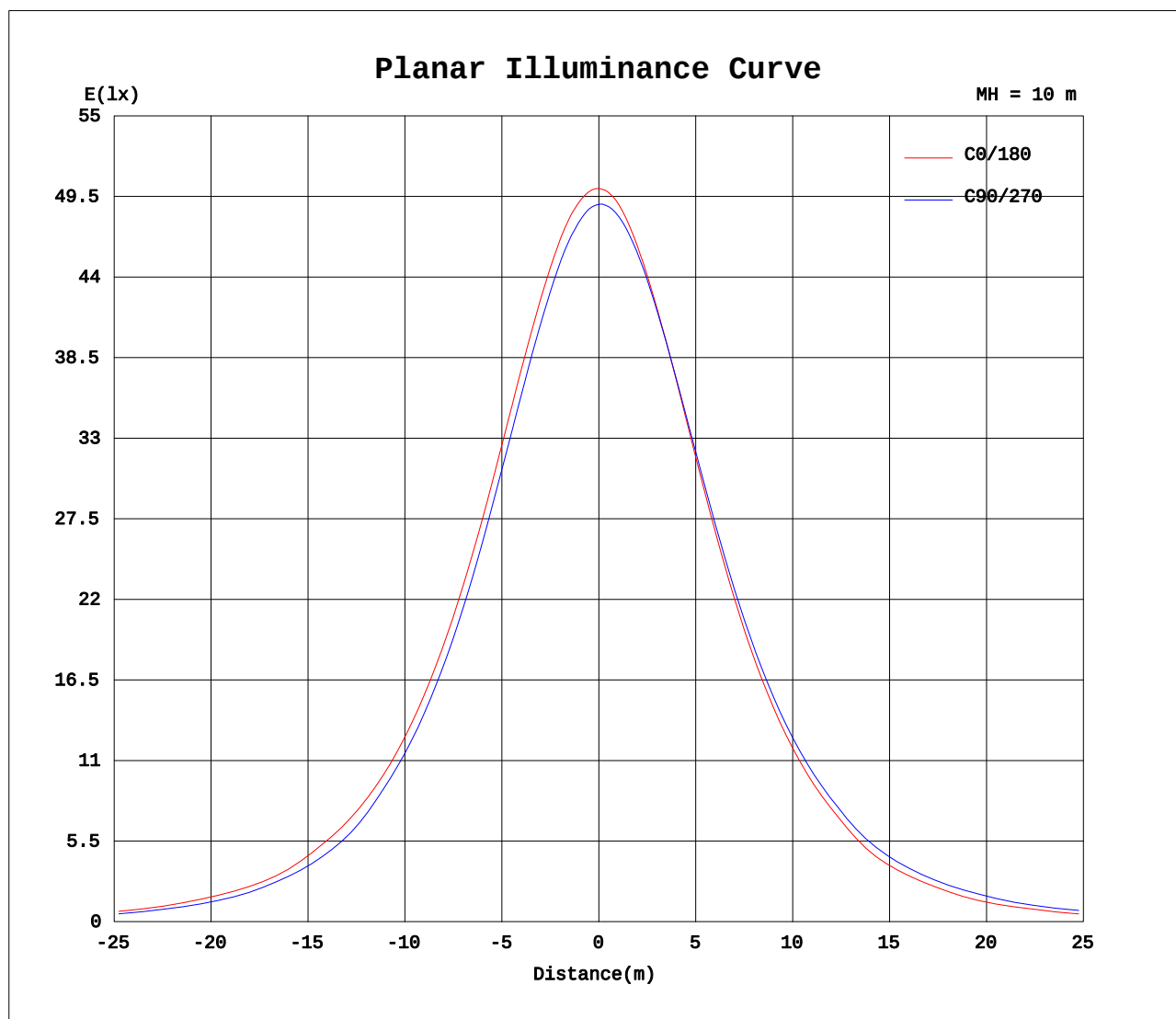
Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm		
NAME: F2136-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.6*0.6	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-05-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7312]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:232.0V I:0.4569A P:101.7W PF:0.9598 Lamp Flux:13795.6x1 lm																	
NAME: F2136-100W									TYPE:			WEIGHT:					
DIM.:									SPEC.:			SERIAL No.:					
MFR.:									SUR.:0.6*0.6			PROTECTION ANGLE:					

Table--1

UNIT: cd

C(DEG) γ (DEG)																	
	0	30	60	90	120	150	180	210	240	270	300	330					
0	5005	4965	4928	4897	4869	4845	5005	4965	4928	4897	4869	4845					
5	4993	4947	4899	4860	4834	4815	4983	4947	4921	4895	4871	4842					
10	4953	4902	4837	4795	4763	4736	4911	4889	4874	4853	4836	4812					
15	4872	4813	4743	4687	4650	4626	4808	4790	4795	4780	4774	4745					
20	4756	4691	4613	4550	4503	4482	4675	4665	4683	4676	4673	4642					
25	4603	4533	4446	4373	4319	4299	4497	4491	4526	4531	4539	4507					
30	4404	4321	4235	4157	4094	4072	4275	4279	4336	4352	4366	4323					
35	4170	4090	3987	3893	3831	3807	4010	4033	4109	4122	4153	4107					
40	3897	3813	3694	3598	3517	3494	3699	3740	3834	3860	3900	3861					
45	3566	3487	3351	3253	3163	3141	3352	3395	3508	3554	3602	3570					
50	3198	3110	2978	2820	2780	2744	2958	3008	3153	3206	3264	3214					
55	2790	2706	2521	2352	2262	2268	2367	2584	2724	2706	2889	2827					
60	2198	2184	2021	1883	1793	1725	1924	1980	2201	2284	2371	2406					
65	1726	1655	1516	1368	1263	1170	1357	1497	1732	1766	1913	1817					
70	1162	1087	1000	846	704	684	845	928	1195	1280	1387	1319					
75	646	607	487	398	301	305	420	473	653	747	851	770					
80	266	238	155	106	78.2	78.1	129	163	251	328	399	354					
85	63.1	52.6	34.4	27.7	25.3	26.1	36.0	41.8	60.0	76.3	120	102					
90	24.2	23.1	22.3	22.6	23.4	22.9	27.1	27.2	26.7	26.8	32.7	31.3					
95	23.6	23.7	24.1	24.4	24.7	24.6	28.6	27.9	27.1	26.5	26.4	26.3					
100	25.6	25.7	26.2	26.6	26.9	26.7	31.0	30.3	29.4	28.7	28.2	28.2					
105	27.7	28.0	28.6	29.0	29.2	29.1	33.5	32.7	31.8	30.9	30.4	30.3					
110	30.3	30.5	31.0	31.6	31.7	31.5	36.1	35.2	34.2	33.3	32.9	32.7					
115	33.1	33.3	33.7	34.3	34.3	34.1	38.6	37.6	36.6	35.8	35.3	35.1					
120	35.3	35.8	36.1	36.4	36.8	36.6	41.0	39.9	38.8	38.2	37.6	37.4					
125	37.6	38.2	38.5	38.6	39.2	38.9	43.4	42.1	41.1	40.4	39.9	39.8					
130	39.8	40.5	40.9	40.8	41.5	41.3	45.6	44.3	43.3	42.5	42.0	41.9					
135	42.1	42.9	43.3	43.1	43.8	43.5	47.9	46.4	45.5	44.8	44.2	44.1					
140	44.3	45.3	45.6	45.3	46.2	45.8	50.3	48.8	48.0	47.2	46.6	46.5					
145	46.8	47.8	48.0	47.8	48.5	48.1	53.1	51.4	50.8	49.9	49.3	49.1					
150	49.6	50.3	50.2	50.3	50.6	50.0	56.0	54.0	53.6	52.7	52.0	51.9					
155	52.5	52.9	52.2	52.9	52.8	52.0	58.4	55.8	56.2	55.3	54.0	54.4					
160	55.2	55.4	54.6	55.4	55.0	54.2	60.2	57.7	58.0	57.2	56.0	56.3					
165	57.6	57.7	56.7	57.5	56.8	56.2	61.7	59.4	59.7	59.0	57.8	57.9					
170	59.7	59.5	58.6	59.2	58.4	57.9	62.5	60.6	60.6	60.0	59.2	59.0					
175	60.0	59.5	58.5	59.0	58.1	57.8	62.2	60.2	60.3	60.0	59.2	59.0					
180	60.8	59.8	59.0	59.5	58.4	58.3	61.2	59.4	59.3	59.2	58.6	58.1					

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-05-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7312]
Remarks: