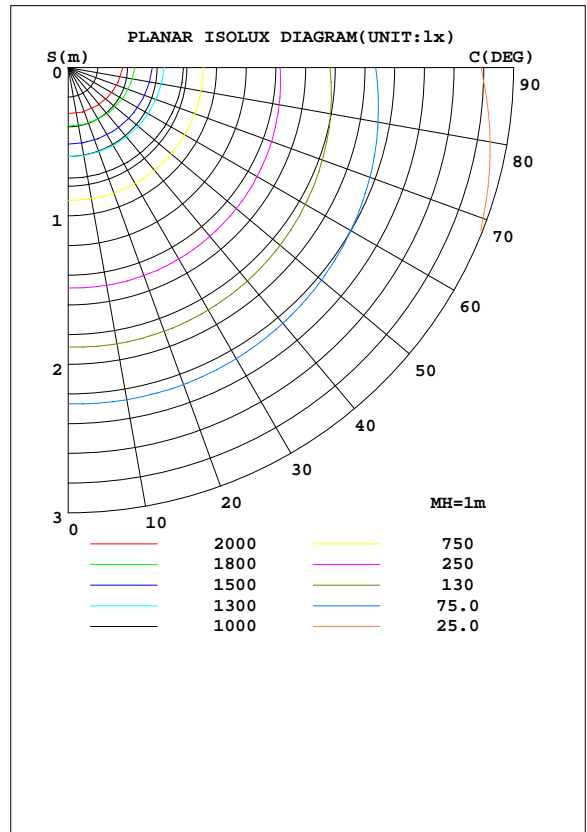
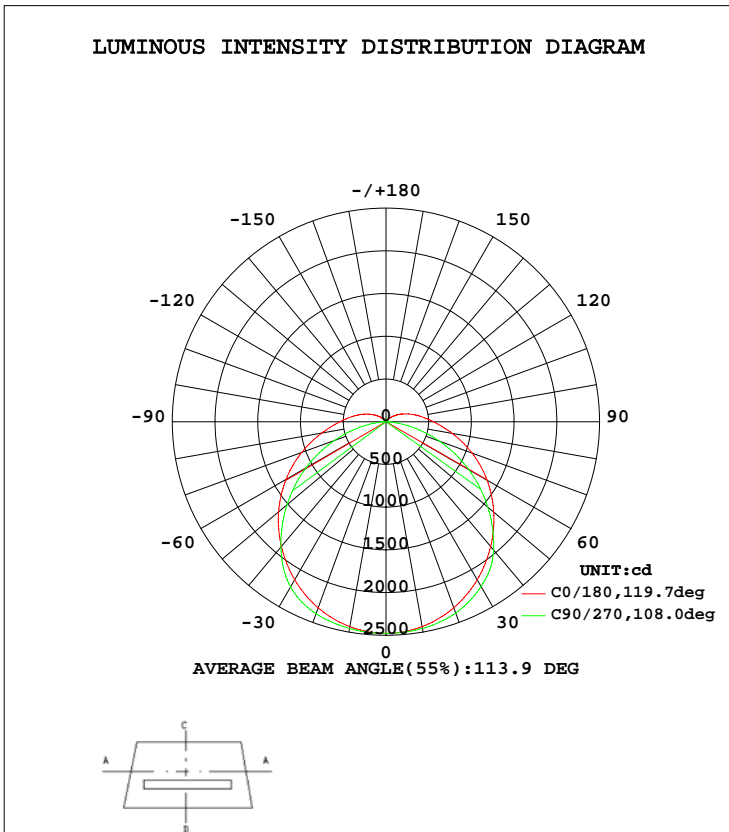


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.68 lm/W			
MODEL	VFV070	I <sub>max</sub> (cd)	2479	S/MH(C0/180)	1.28
NOMINAL POWER(W)	70	LOR(%)	100.0	S/MH(C90/270)	1.33
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	8991.8	η UP, DN(C0-180)	4.1, 45.7
NOMINAL FLUX(lm)	8991.8	CIE CLASS	DIRECT	η UP, DN(C180-360)	4.0, 46.1
LAMPS INSIDE	1	η up(%)	8.2	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	231.0	η down(%)	91.8	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 1  
 Test Date: 2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9793]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	2436	2449	2457	2440	2435	2425	2457	2455	0- 10	234.9	234.9	2.61,2.61
20	2318	2341	2392	2338	2317	2300	2384	2368	10- 20	678.9	913.8	10.2,10.2
30	2137	2161	2233	2166	2136	2111	2226	2219	20- 30	1046	1960	21.8,21.8
40	1905	1920	1914	1916	1906	1875	1960	1986	30- 40	1288	3248	36.1,36.1
50	1641	1634	1512	1617	1647	1600	1556	1677	40- 50	1367	4615	51.3,51.3
60	1351	1319	1082	1292	1366	1300	1118	1331	50- 60	1290	5905	65.7,65.7
70	1050	982.1	643.8	957.1	1073	979.3	667.3	978.1	60- 70	1082	6987	77.7,77.7
80	761.3	657.8	240.4	642.9	787.6	662.9	245.8	644.8	70- 80	784.3	7771	86.4,86.4
90	538.8	413.8	24.21	403.4	555.9	416.1	23.19	359.1	80- 90	484.9	8256	91.8,91.8
100	387.0	267.6	19.28	261.5	396.5	265.4	18.85	236.0	90-100	305.7	8562	95.2,95.2
110	263.0	155.4	18.96	155.9	271.0	153.3	17.65	144.4	100-110	197.3	8759	97.4,97.4
120	162.0	66.47	19.36	78.52	170.6	76.68	18.06	63.68	110-120	110.7	8870	98.6,98.6
130	86.29	30.32	21.31	33.46	91.66	32.19	18.90	27.40	120-130	53.79	8924	99.2,99.2
140	39.80	26.47	25.56	29.64	39.84	28.67	21.83	22.25	130-140	26.76	8950	99.5,99.5
150	33.68	26.03	28.01	29.71	32.11	28.50	23.62	19.91	140-150	17.66	8968	99.7,99.7
160	31.10	28.01	28.27	29.23	29.82	28.41	26.65	21.98	150-160	12.77	8981	99.9,99.9
170	31.38	30.27	29.36	29.17	29.57	30.33	28.62	25.59	160-170	8.078	8989	100,100
180	26.13	31.37	30.26	28.83	26.26	31.42	30.33	28.84	170-180	2.820	8992	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

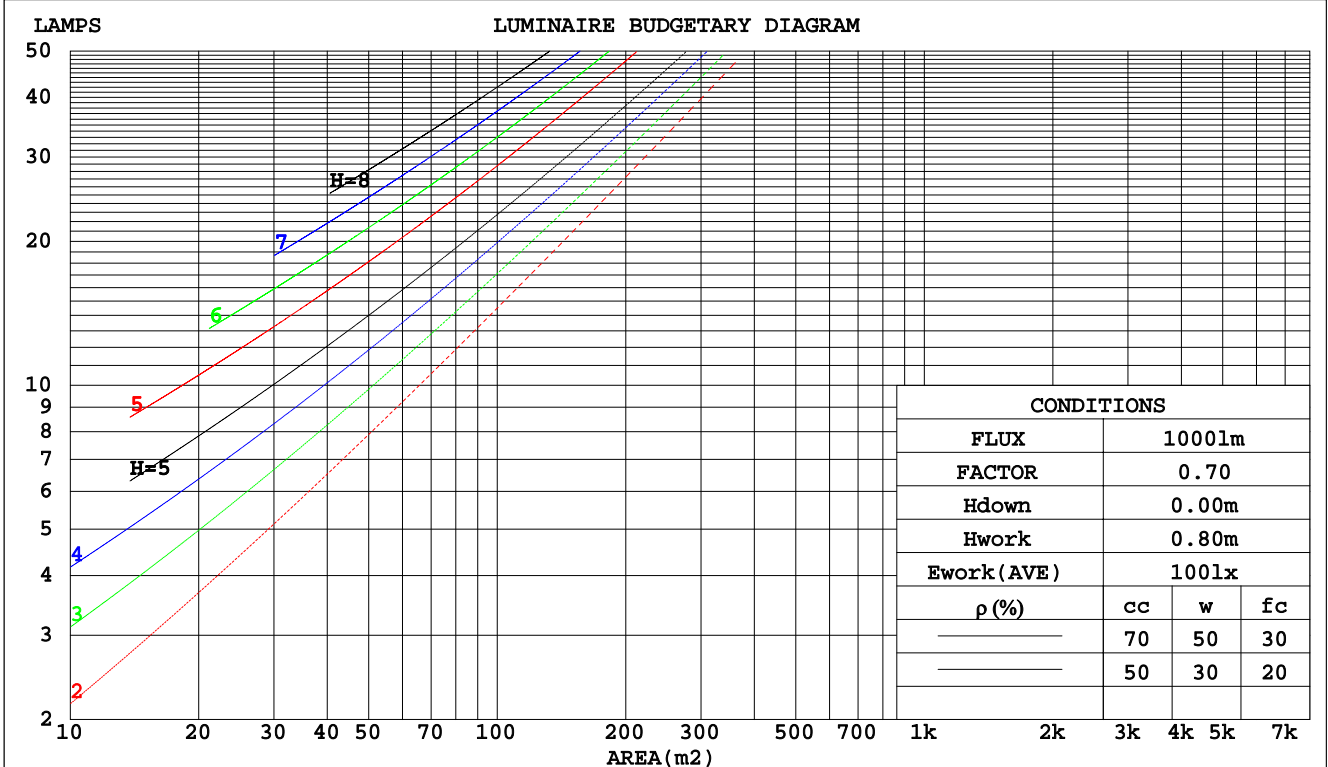
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.17	1.17	1.17	1.13	1.13	1.13	1.07	1.07	1.07	1.00	1.00	1.00	.95	.95	.95	.92
1.0	.99	.94	.90	.96	.92	.88	.90	.87	.83	.85	.82	.79	.80	.78	.76	.73
2.0	.86	.78	.72	.83	.76	.70	.78	.72	.67	.73	.69	.65	.69	.65	.62	.59
3.0	.75	.66	.59	.72	.64	.58	.68	.61	.56	.64	.59	.54	.61	.56	.52	.49
4.0	.66	.56	.49	.64	.55	.49	.60	.53	.47	.57	.51	.46	.54	.48	.44	.41
5.0	.59	.49	.42	.57	.48	.42	.54	.46	.40	.51	.44	.39	.48	.43	.38	.36
6.0	.53	.43	.37	.51	.42	.36	.48	.41	.35	.46	.39	.34	.44	.38	.33	.31
7.0	.47	.38	.32	.46	.38	.32	.44	.36	.31	.42	.35	.30	.40	.34	.29	.27
8.0	.43	.34	.29	.42	.34	.28	.40	.33	.27	.38	.32	.27	.36	.31	.26	.24
9.0	.40	.31	.26	.39	.31	.25	.37	.30	.25	.35	.29	.24	.34	.28	.24	.22
10.0	.36	.28	.23	.36	.28	.23	.34	.27	.22	.33	.26	.22	.31	.25	.21	.20



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 1  
 Test Date: 2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9793]  
 Remarks:

WEC AND CCEC

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.358	.203	.064	.348	.199	.063	.330	.189	.060	.313	.181	.058	.298	.173	.056	
2.0	.319	.175	.054	.310	.171	.053	.294	.163	.051	.279	.157	.049	.265	.150	.047	
3.0	.288	.153	.046	.280	.150	.045	.265	.144	.044	.252	.138	.042	.239	.132	.041	
4.0	.261	.136	.040	.254	.133	.039	.241	.128	.038	.229	.123	.037	.218	.118	.036	
5.0	.239	.122	.035	.233	.119	.035	.221	.115	.034	.210	.111	.033	.200	.107	.032	
6.0	.220	.110	.032	.214	.108	.031	.204	.104	.030	.194	.101	.030	.184	.097	.029	
7.0	.204	.101	.029	.198	.099	.028	.189	.095	.027	.180	.092	.027	.171	.089	.026	
8.0	.189	.092	.026	.185	.091	.026	.176	.088	.025	.168	.085	.024	.160	.082	.024	
9.0	.177	.085	.024	.173	.084	.024	.165	.081	.023	.157	.079	.023	.150	.076	.022	
10.0	.166	.079	.022	.162	.078	.022	.155	.076	.021	.148	.073	.021	.141	.071	.020	

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	.253	.253	.253	.216	.216	.216	.147	.147	.147	.085	.085	.085	.027	.027	.027	
1.0	.246	.219	.193	.211	.188	.166	.144	.129	.115	.083	.075	.067	.027	.024	.022	
2.0	.239	.195	.158	.205	.168	.137	.140	.116	.095	.081	.068	.056	.026	.022	.018	
3.0	.231	.178	.135	.198	.154	.117	.136	.107	.082	.079	.062	.049	.025	.020	.016	
4.0	.224	.165	.120	.192	.143	.105	.132	.099	.074	.076	.058	.044	.025	.019	.014	
5.0	.216	.155	.110	.186	.134	.096	.128	.094	.068	.074	.055	.040	.024	.018	.013	
6.0	.209	.147	.103	.179	.127	.089	.124	.089	.063	.072	.052	.038	.023	.017	.012	
7.0	.202	.140	.097	.173	.121	.085	.120	.085	.060	.070	.050	.036	.022	.016	.012	
8.0	.195	.134	.093	.168	.117	.081	.116	.082	.057	.068	.048	.034	.022	.016	.011	
9.0	.189	.130	.090	.163	.112	.078	.113	.079	.055	.066	.047	.033	.021	.015	.011	
10.0	.183	.125	.087	.158	.109	.076	.109	.077	.054	.064	.045	.032	.021	.015	.011	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks:

Uncorrected UGR Table

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm										
NAME: LED Vapor Tight Fixture					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.: KiLi-LED Lighting Limited					SUR.:			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	39.7	41.2	40.1	41.5	41.9	39.2	40.7	39.6	41.0	41.4
3H	41.8	43.2	42.2	43.6	44.0	40.7	42.0	41.1	42.4	42.8
4H	42.9	44.2	43.4	44.6	45.1	41.2	42.5	41.7	42.9	43.4
6H	44.1	45.3	44.6	45.8	46.2	41.6	42.8	42.1	43.3	43.7
8H	44.8	45.9	45.2	46.4	46.8	41.7	42.9	42.2	43.3	43.8
12H	45.5	46.6	46.0	47.1	47.6	41.8	42.9	42.2	43.3	43.8
4H 2H	40.4	41.7	40.8	42.1	42.5	40.0	41.3	40.4	41.7	42.1
3H	42.7	43.9	43.2	44.3	44.8	41.8	42.9	42.2	43.3	43.8
4H	44.0	45.1	44.5	45.5	46.0	42.5	43.6	43.0	44.0	44.5
6H	45.4	46.3	45.9	46.8	47.3	43.1	44.0	43.6	44.5	45.1
8H	46.1	47.0	46.7	47.5	48.1	43.3	44.1	43.8	44.6	45.2
12H	47.0	47.8	47.5	48.3	48.9	43.4	44.2	43.9	44.7	45.3
8H 4H	44.4	45.3	44.9	45.8	46.4	43.2	44.0	43.7	44.6	45.1
6H	46.0	46.8	46.6	47.3	47.9	44.1	44.8	44.6	45.3	45.9
8H	47.0	47.6	47.5	48.2	48.8	44.4	45.1	45.0	45.6	46.3
12H	48.0	48.6	48.6	49.2	49.9	44.7	45.3	45.3	45.8	46.5
12H 4H	44.4	45.2	45.0	45.8	46.4	43.3	44.1	43.9	44.7	45.2
6H	46.2	46.8	46.8	47.4	48.0	44.4	45.0	45.0	45.6	46.2
8H	47.2	47.8	47.8	48.4	49.0	44.9	45.4	45.5	46.0	46.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 8992 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.6)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

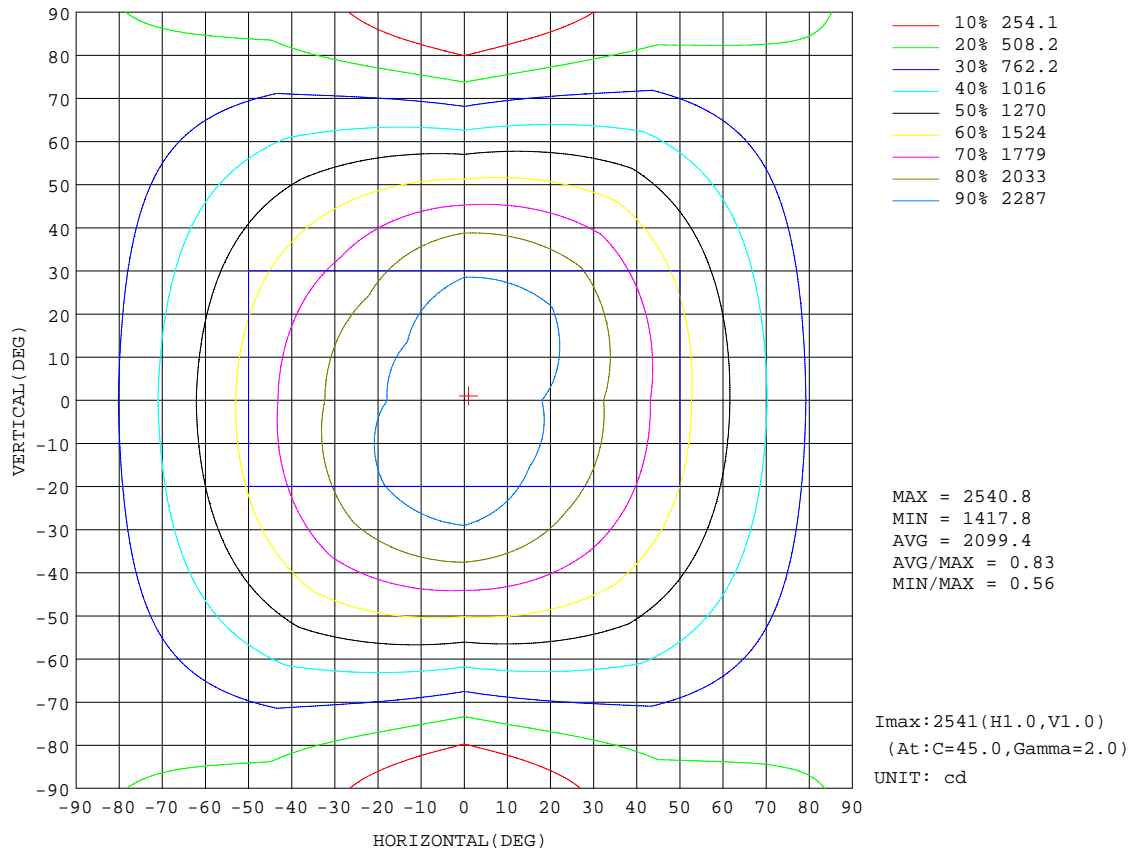
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	52	40	33	51	40	33	50	39	33	26
0.80	62	49	42	61	49	41	58	48	41	33
1.00	70	58	50	68	57	49	66	58	49	41
1.25	77	65	57	75	64	57	72	62	56	47
1.50	82	71	63	80	70	62	76	67	61	52
2.00	89	79	71	87	77	70	82	75	68	59
2.50	93	84	77	91	82	76	86	79	73	63
3.00	97	89	82	94	87	80	89	83	78	67
4.00	101	94	88	98	92	87	93	88	83	72
5.00	104	98	93	101	95	91	95	91	87	75
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

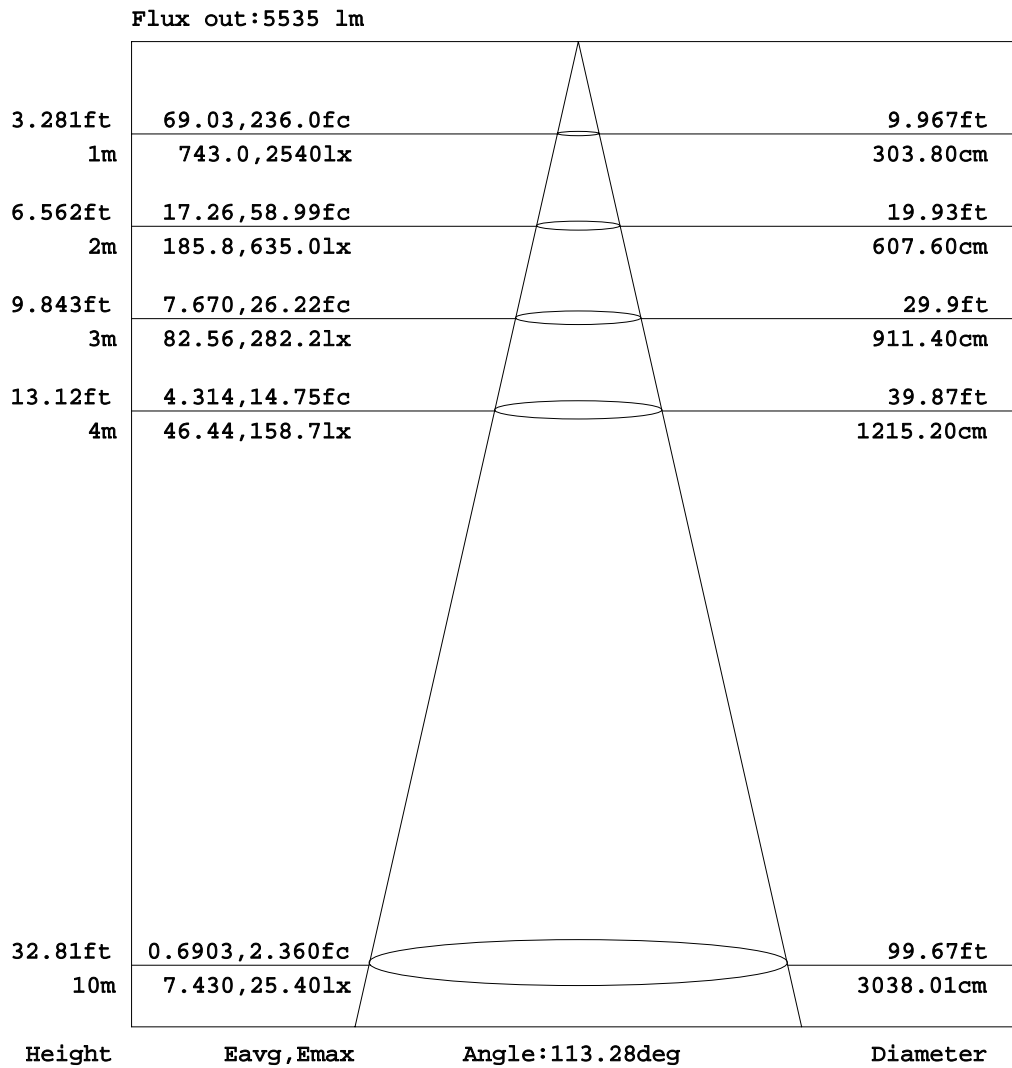


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 1  
 Test Date: 2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9793]  
 Remarks:

AAI Figure

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:



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

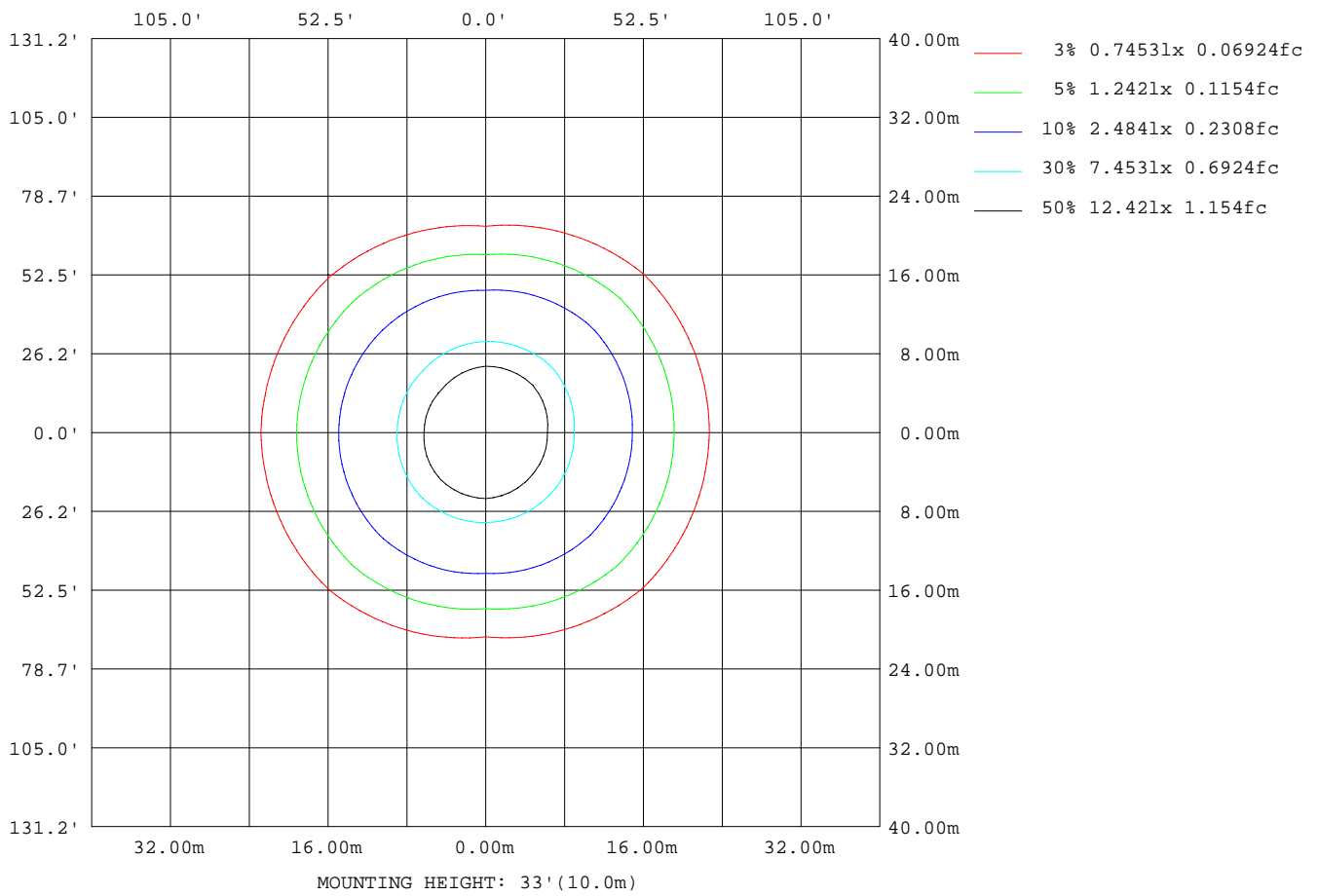
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks:



**ISOLUX DIAGRAM**

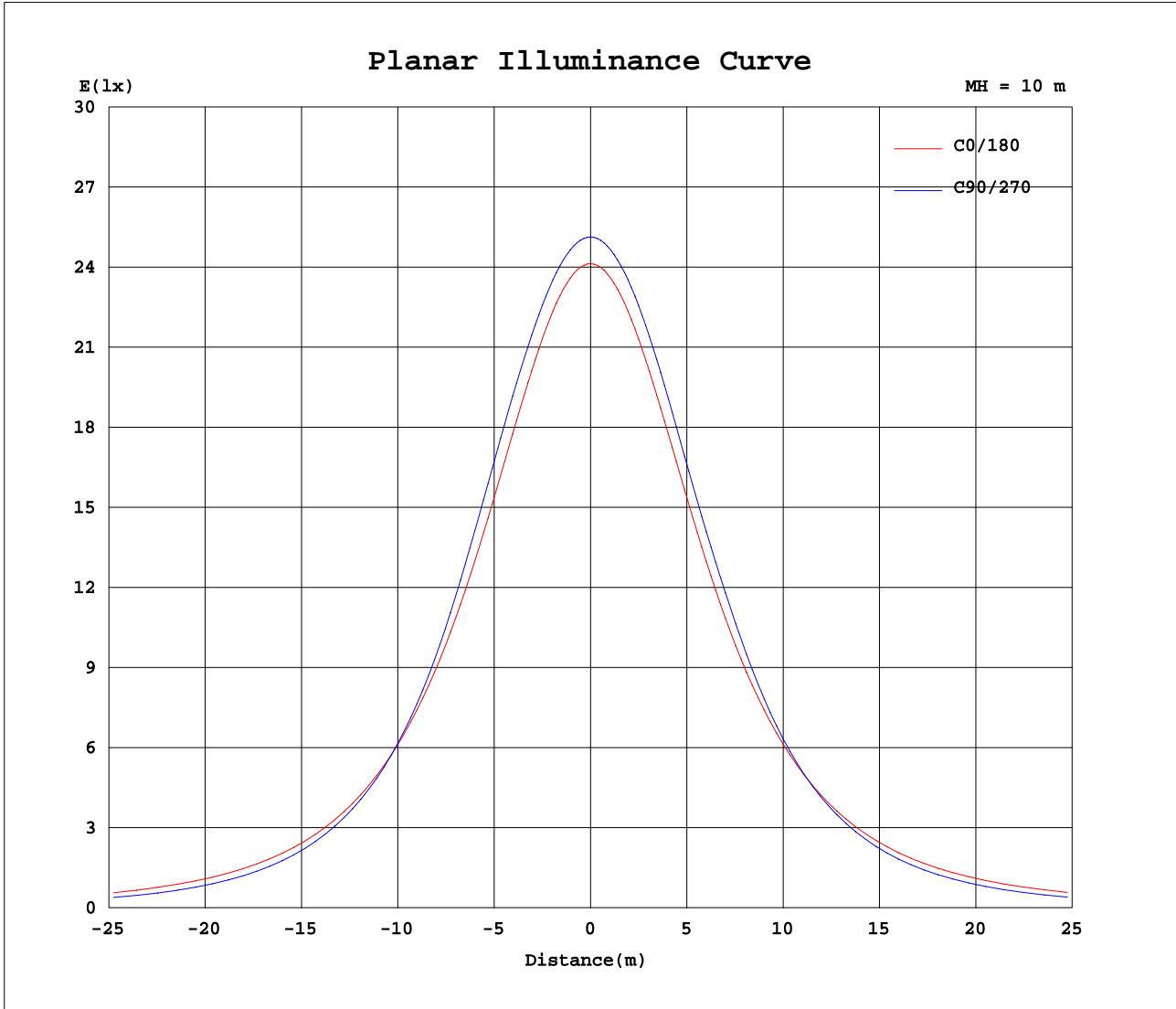
Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 1  
 Test Date: 2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9793]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 1  
 Test Date: 2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9793]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.9V I:0.3081A P:68.81W PF:0.9673 Lamp Flux:8991.8x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: KiLi-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	45	90	135	180	225	270	315											
0	2478	2478	2478	2478	2478	2478	2478	2478											
5	2467	2474	2472	2467	2466	2462	2471	2474											
10	2436	2449	2457	2440	2435	2425	2457	2455											
15	2385	2405	2431	2397	2384	2372	2429	2419											
20	2318	2341	2392	2338	2317	2300	2384	2368											
25	2235	2260	2330	2262	2234	2212	2315	2303											
30	2137	2161	2233	2166	2136	2111	2226	2219											
35	2025	2048	2093	2049	2026	1999	2117	2115											
40	1905	1920	1914	1916	1906	1875	1960	1986											
45	1777	1782	1717	1771	1779	1741	1764	1838											
50	1641	1634	1512	1617	1647	1600	1556	1677											
55	1499	1480	1299	1458	1508	1454	1341	1507											
60	1351	1319	1082	1292	1366	1300	1118	1331											
65	1201	1152	862	1125	1220	1141	893	1154											
70	1050	982	644	957	1073	979	667	978											
75	901	815	433	795	927	818	445	807											
80	761	658	240	643	788	663	246	645											
85	639	522	88.9	510	661	525	89.9	484											
90	539	414	24.2	403	556	416	23.2	359											
95	458	335	21.1	327	468	335	20.4	272											
100	387	268	19.3	262	396	265	18.8	236											
105	321	207	19.1	205	330	203	17.8	190											
110	263	155	19.0	156	271	153	17.6	144											
115	209	98.5	19.1	113	218	111	17.7	95.2											
120	162	66.5	19.4	78.5	171	76.7	18.1	63.7											
125	121	43.8	19.9	51.4	128	50.1	18.5	39.1											
130	86.3	30.3	21.3	33.5	91.7	32.2	18.9	27.4											
135	57.4	27.9	23.4	29.3	61.7	28.4	20.7	23.9											
140	39.8	26.5	25.6	29.6	39.8	28.7	21.8	22.3											
145	36.5	25.9	27.4	29.8	33.4	28.6	22.2	20.9											
150	33.7	26.0	28.0	29.7	32.1	28.5	23.6	19.9											
155	31.5	26.8	27.8	29.0	31.1	28.2	25.3	20.5											
160	31.1	28.0	28.3	29.2	29.8	28.4	26.6	22.0											
165	31.4	29.3	28.8	29.1	29.7	29.3	27.7	23.6											
170	31.4	30.3	29.4	29.2	29.6	30.3	28.6	25.6											
175	30.3	30.9	29.9	29.0	29.7	30.9	29.6	27.5											
180	26.1	31.4	30.3	28.8	26.3	31.4	30.3	28.8											

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:1  
 Test Date:2018-09-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9793]  
 Remarks: