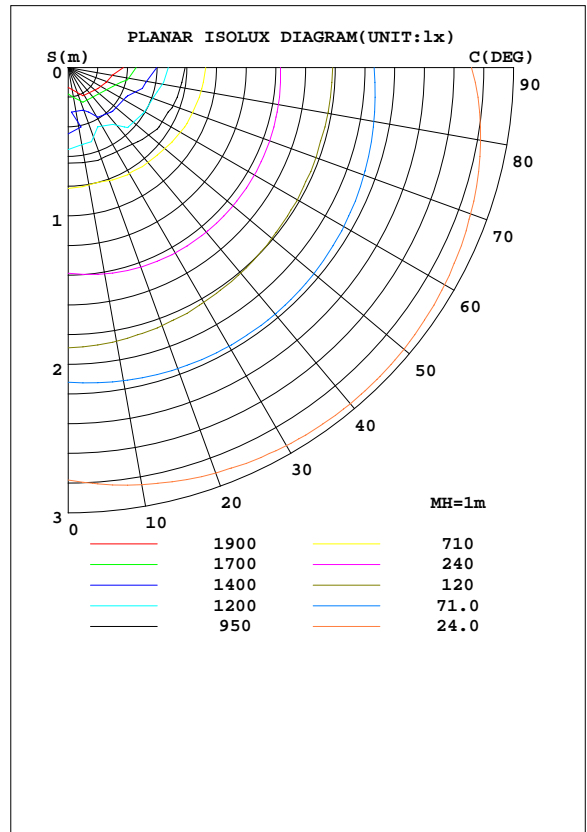
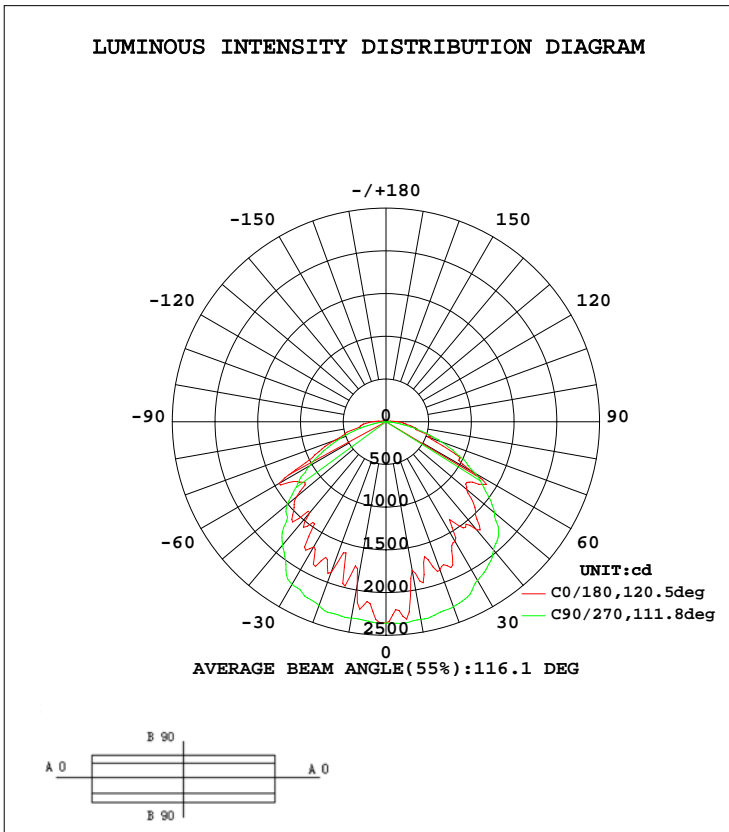


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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: 126.26 lm/W			
MODEL	VFS056	I <sub>max</sub> (cd)	2375	S/MH(C0/180)	1.09
NOMINAL POWER(W)	56	LOR(%)	100.0	S/MH(C90/270)	1.36
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	6881.0	η UP, DN(C0-180)	1.0, 48.1
NOMINAL FLUX(lm)	6881.04	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.0, 49.8
LAMPS INSIDE	1	η up(%)	2.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	229.7	η down(%)	97.9	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:‰  
 Test Distance:9.190m [K=0.9684]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
10	1944	2100	2334	2047	1765	2080	2349	2165	0- 10	213.9	213.9	3.11,3.11
20	1872	1900	2291	1667	1849	1621	2305	1937	10- 20	559.5	773.4	11.2,11.2
30	1691	1840	2199	1802	1618	1736	2142	1921	20- 30	876.4	1650	24,24
40	1389	1592	1885	1406	1650	1387	1958	1711	30- 40	1098	2748	39.9,39.9
50	1370	1311	1507	1496	1231	1462	1662	1420	40- 50	1176	3923	57,57
60	1446	1135	1031	1003	1151	1044	1204	1251	50- 60	1166	5089	74,74
70	638.8	850.2	564.1	653.1	536.9	752.7	683.1	951.8	60- 70	935.9	6025	87.6,87.6
80	307.9	382.4	154.6	333.2	302.0	342.4	216.3	453.9	70- 80	521.9	6547	95.1,95.1
90	163.7	114.0	7.053	100.5	148.7	115.5	11.87	111.4	80- 90	190.4	6738	97.9,97.9
100	49.90	65.25	5.656	53.33	46.01	55.61	6.293	72.71	90-100	73.13	6811	99,99
110	30.88	28.22	4.575	22.28	25.87	22.44	4.481	29.89	100-110	32.55	6843	99.5,99.5
120	19.94	13.42	4.535	10.91	19.02	10.47	4.023	14.22	110-120	16.06	6859	99.7,99.7
130	12.94	7.282	4.875	5.305	10.67	4.816	4.228	7.221	120-130	8.688	6868	99.8,99.8
140	7.601	5.113	5.356	4.908	5.895	4.540	4.662	4.547	130-140	4.698	6873	99.9,99.9
150	5.253	5.499	5.782	5.497	5.293	5.216	5.317	5.056	140-150	3.275	6876	99.9,99.9
160	5.810	6.111	6.169	6.132	5.990	6.021	5.853	5.731	150-160	2.612	6879	100,100
170	6.820	6.554	6.444	6.460	6.885	6.473	6.287	6.256	160-170	1.772	6880	100,100
180	7.160	6.755	6.579	6.601	7.208	6.723	6.602	6.585	170-180	0.6311	6881	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

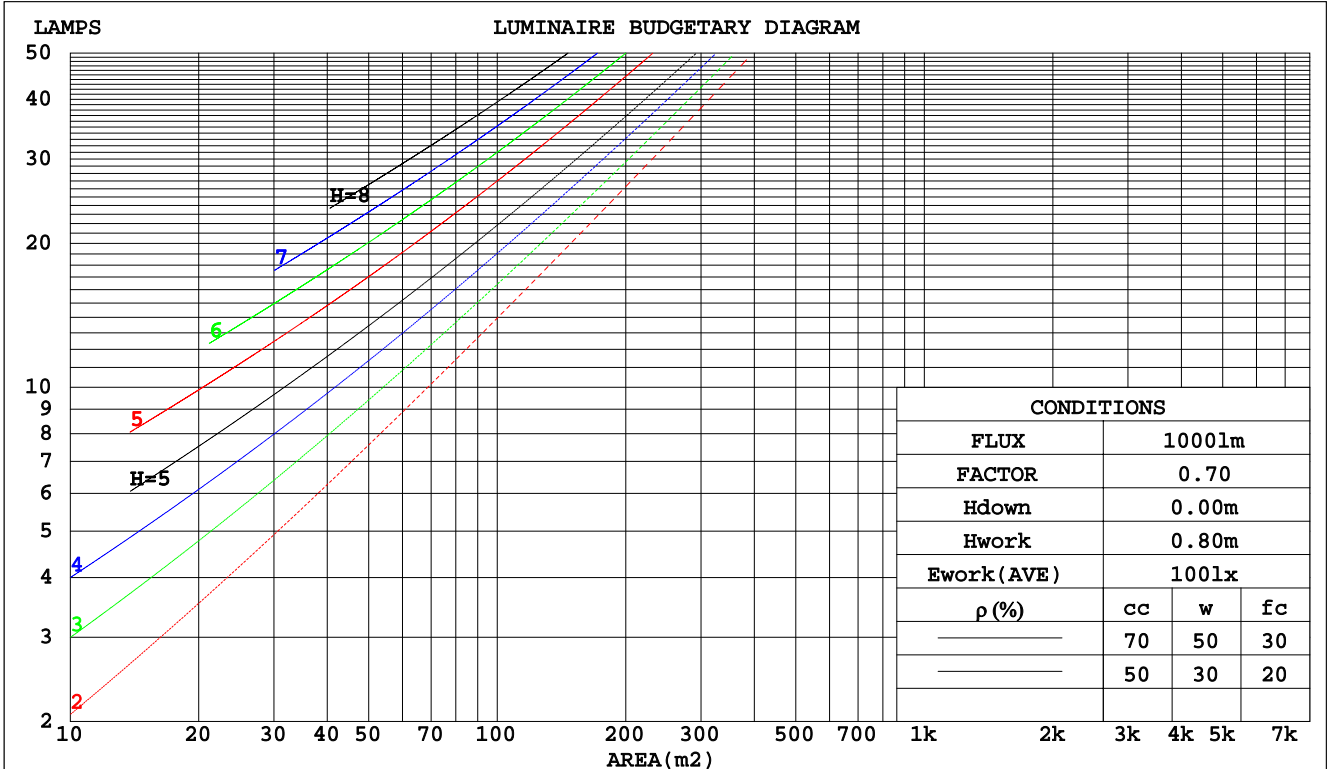
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	1.02	.98	.94	.90	.96	.92	.95	.92	.89	.91	.88	.86	.87	.85	.83	.80
2.0	.89	.81	.75	.86	.80	.74	.83	.77	.72	.79	.74	.70	.76	.72	.68	.66
3.0	.77	.69	.62	.76	.68	.61	.72	.65	.60	.69	.63	.59	.66	.61	.57	.55
4.0	.68	.59	.52	.67	.58	.51	.64	.56	.51	.61	.55	.50	.59	.53	.49	.46
5.0	.61	.51	.44	.59	.51	.44	.57	.49	.43	.55	.48	.43	.53	.47	.42	.40
6.0	.54	.45	.38	.53	.45	.38	.51	.43	.38	.49	.42	.37	.47	.41	.37	.34
7.0	.49	.40	.34	.48	.40	.34	.46	.39	.33	.45	.38	.33	.43	.37	.32	.30
8.0	.45	.36	.30	.44	.36	.30	.42	.35	.29	.41	.34	.29	.40	.33	.29	.27
9.0	.41	.33	.27	.40	.32	.27	.39	.32	.26	.38	.31	.26	.36	.30	.26	.24
10.0	.38	.30	.24	.37	.29	.24	.36	.29	.24	.35	.28	.24	.34	.28	.24	.22



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 01  
 Test Date: 2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9684]  
 Remarks:

WEC AND CCEC

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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	.328	.187	.059	.320	.183	.058	.306	.175	.056	.292	.169	.054	.280	.162	.052	
2.0	.305	.167	.051	.298	.164	.051	.285	.158	.049	.273	.153	.048	.262	.148	.047	
3.0	.280	.149	.045	.274	.147	.044	.263	.142	.043	.252	.138	.042	.242	.134	.041	
4.0	.257	.134	.039	.252	.132	.039	.242	.128	.038	.232	.125	.038	.223	.121	.037	
5.0	.237	.121	.035	.232	.119	.035	.223	.116	.034	.214	.113	.034	.206	.110	.033	
6.0	.219	.110	.031	.215	.108	.031	.206	.106	.031	.199	.103	.030	.192	.101	.030	
7.0	.203	.100	.028	.199	.099	.028	.192	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.189	.093	.026	.186	.092	.026	.179	.090	.026	.173	.088	.025	.167	.086	.025	
9.0	.177	.086	.024	.174	.085	.024	.168	.083	.024	.162	.081	.023	.157	.080	.023	
10.0	.166	.080	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.148	.074	.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	.206	.206	.206	.176	.176	.176	.120	.120	.120	.069	.069	.069	.022	.022	.022	
1.0	.198	.172	.149	.169	.148	.128	.116	.102	.089	.067	.059	.052	.021	.019	.017	
2.0	.190	.148	.113	.163	.127	.097	.112	.088	.068	.064	.051	.040	.021	.017	.013	
3.0	.183	.131	.089	.157	.113	.077	.107	.078	.054	.062	.046	.032	.020	.015	.010	
4.0	.175	.117	.073	.150	.101	.064	.103	.071	.045	.060	.041	.027	.019	.013	.009	
5.0	.168	.107	.063	.144	.093	.054	.099	.065	.038	.057	.038	.023	.019	.012	.008	
6.0	.160	.099	.055	.138	.086	.048	.095	.060	.034	.055	.035	.020	.018	.012	.007	
7.0	.154	.092	.049	.132	.080	.043	.091	.056	.030	.053	.033	.018	.017	.011	.006	
8.0	.147	.086	.045	.126	.075	.039	.088	.053	.028	.051	.031	.016	.016	.010	.005	
9.0	.141	.081	.041	.121	.071	.036	.084	.050	.026	.049	.029	.015	.016	.010	.005	
10.0	.135	.077	.039	.116	.067	.034	.081	.047	.024	.047	.028	.014	.015	.009	.005	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks:

Uncorrected UGR Table

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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	39.9	41.5	40.2	41.7	42.0	39.6	41.1	39.9	41.4	41.6
3H	41.4	42.9	41.8	43.1	43.4	41.0	42.5	41.4	42.7	43.0
4H	42.0	43.4	42.3	43.6	44.0	41.5	42.8	41.8	43.1	43.4
6H	42.4	43.7	42.8	44.0	44.3	41.7	43.0	42.0	43.3	43.6
8H	42.6	43.9	43.0	44.2	44.5	41.7	42.9	42.1	43.2	43.6
12H	42.9	44.1	43.3	44.4	44.8	41.7	42.9	42.1	43.2	43.5
4H 2H	40.6	42.0	41.0	42.3	42.6	40.4	41.7	40.7	42.0	42.3
3H	42.4	43.6	42.8	43.9	44.3	42.1	43.3	42.5	43.6	43.9
4H	43.1	44.2	43.5	44.5	44.9	42.7	43.7	43.1	44.1	44.5
6H	43.6	44.6	44.1	45.0	45.4	43.0	43.9	43.4	44.3	44.8
8H	43.9	44.8	44.4	45.2	45.7	43.0	43.9	43.5	44.3	44.8
12H	44.3	45.1	44.7	45.5	46.0	43.0	43.9	43.5	44.3	44.7
8H 4H	43.5	44.4	43.9	44.8	45.2	43.1	44.0	43.5	44.4	44.8
6H	44.2	44.9	44.7	45.4	45.9	43.6	44.3	44.1	44.8	45.3
8H	44.6	45.3	45.1	45.7	46.2	43.7	44.4	44.2	44.9	45.4
12H	45.1	45.7	45.6	46.2	46.7	43.8	44.4	44.3	44.9	45.4
12H 4H	43.5	44.3	43.9	44.7	45.2	43.1	44.0	43.6	44.4	44.8
6H	44.3	44.9	44.8	45.4	45.9	43.7	44.4	44.2	44.8	45.3
8H	44.7	45.3	45.2	45.8	46.3	43.9	44.5	44.4	45.0	45.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H	+ 0.7 / - 0.7					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 6881 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.7)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Kili-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

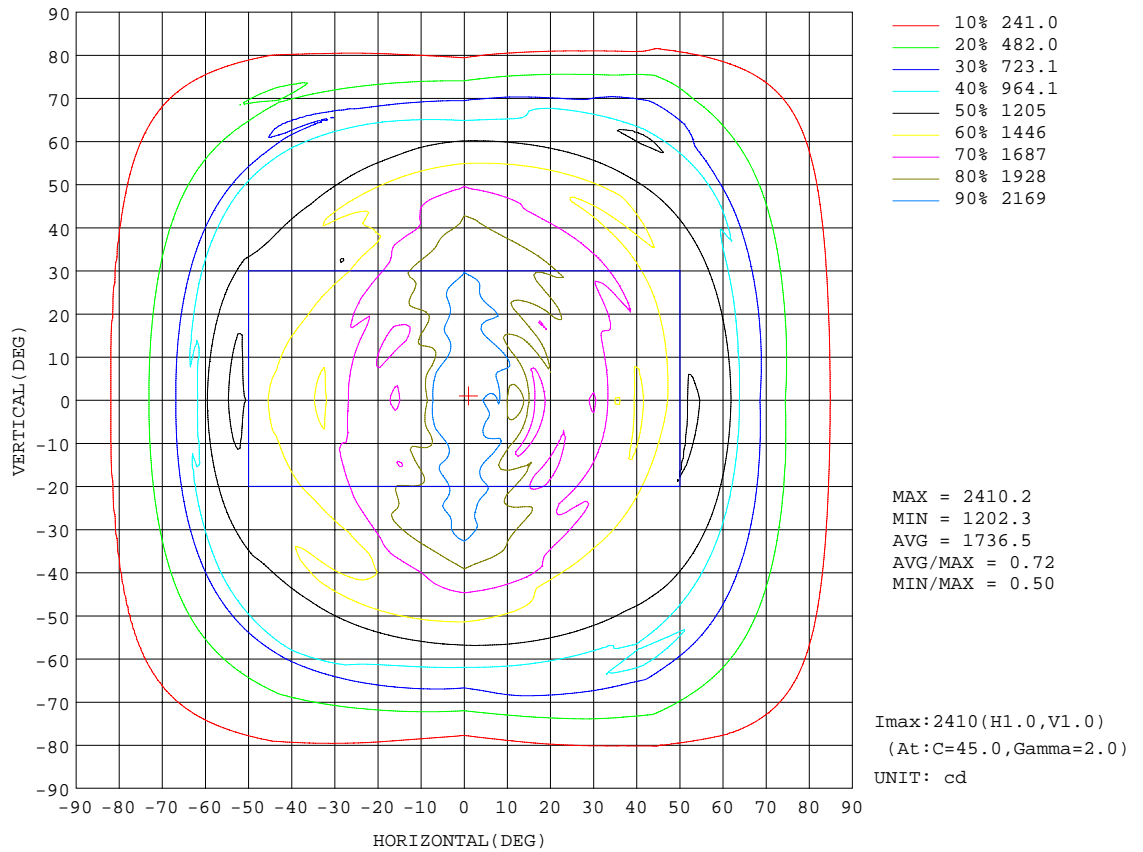
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	43	35	54	42	35	53	42	35	29
0.80	65	53	45	64	52	45	62	51	44	37
1.00	73	61	54	72	61	53	69	62	53	45
1.25	80	69	62	79	68	61	76	67	60	53
1.50	85	75	67	84	74	67	80	72	66	58
2.00	93	83	77	91	82	76	87	80	74	66
2.50	97	88	82	95	87	81	90	84	79	70
3.00	100	93	87	98	91	86	94	88	83	74
4.00	105	98	93	102	97	92	97	93	89	79
5.00	107	102	98	105	100	96	100	96	93	83
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:01  
 Test Date:2018-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Kili-LED Lighting Limited	SUR.:	PROTECTION ANGLE:

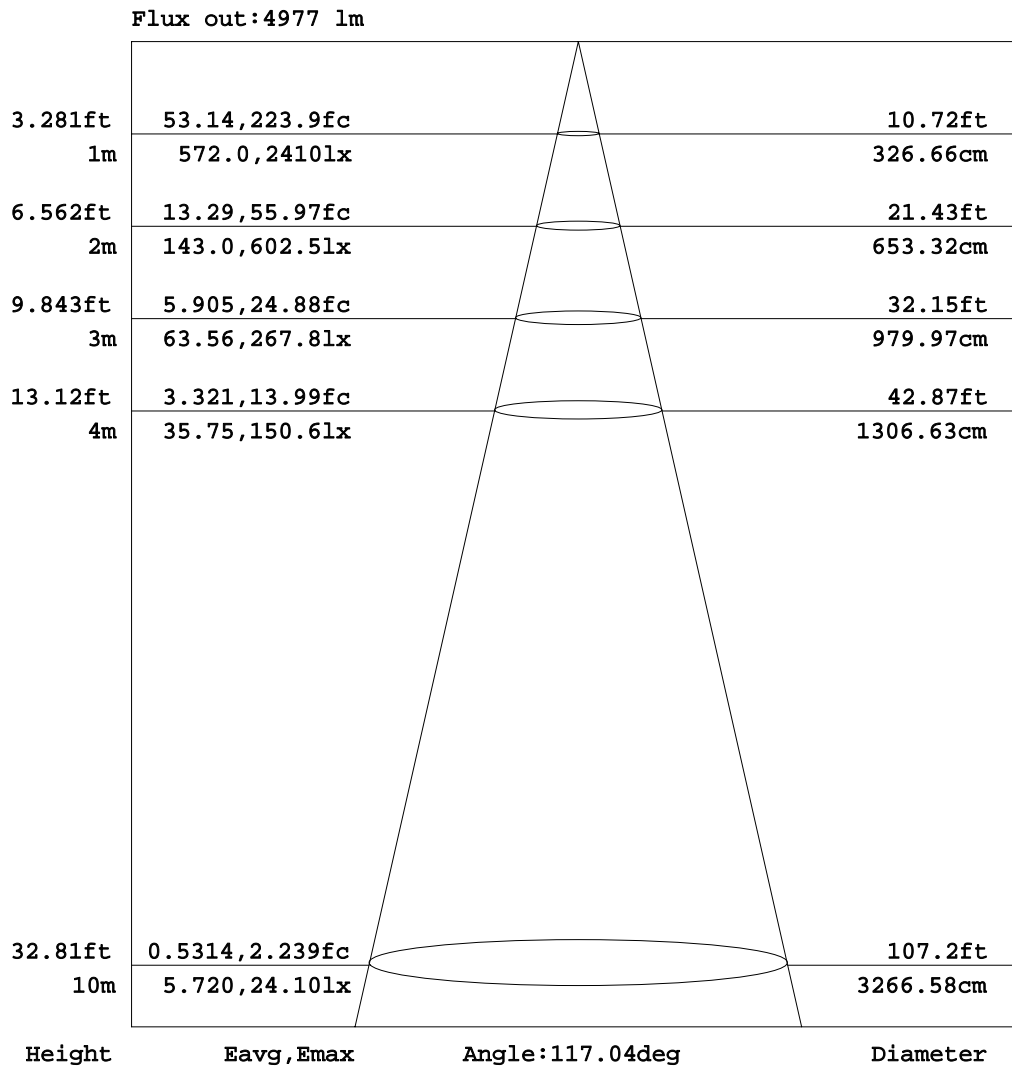


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 01  
 Test Date: 2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9684]  
 Remarks:

AAI Figure

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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.

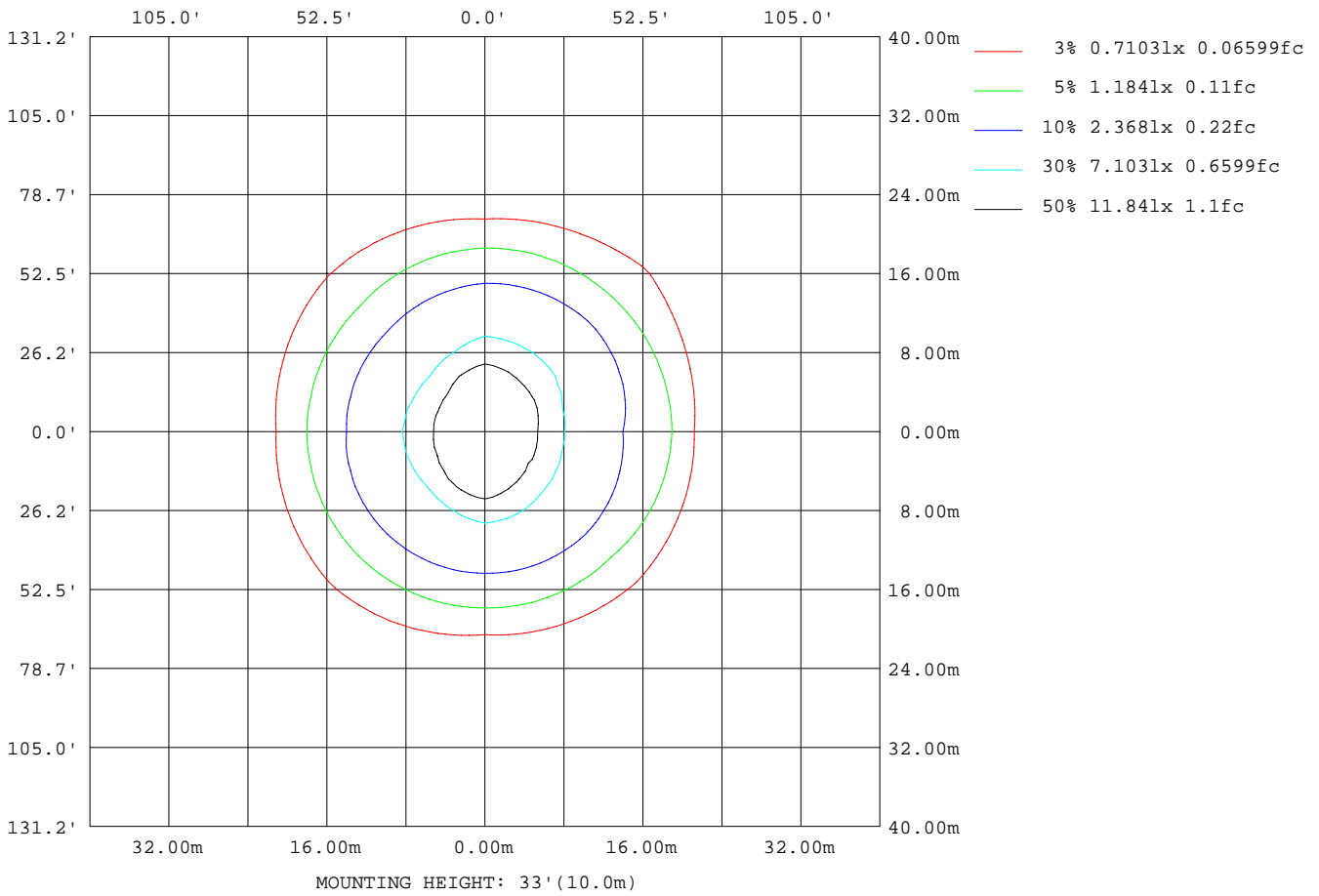
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks:



**ISOLUX DIAGRAM**

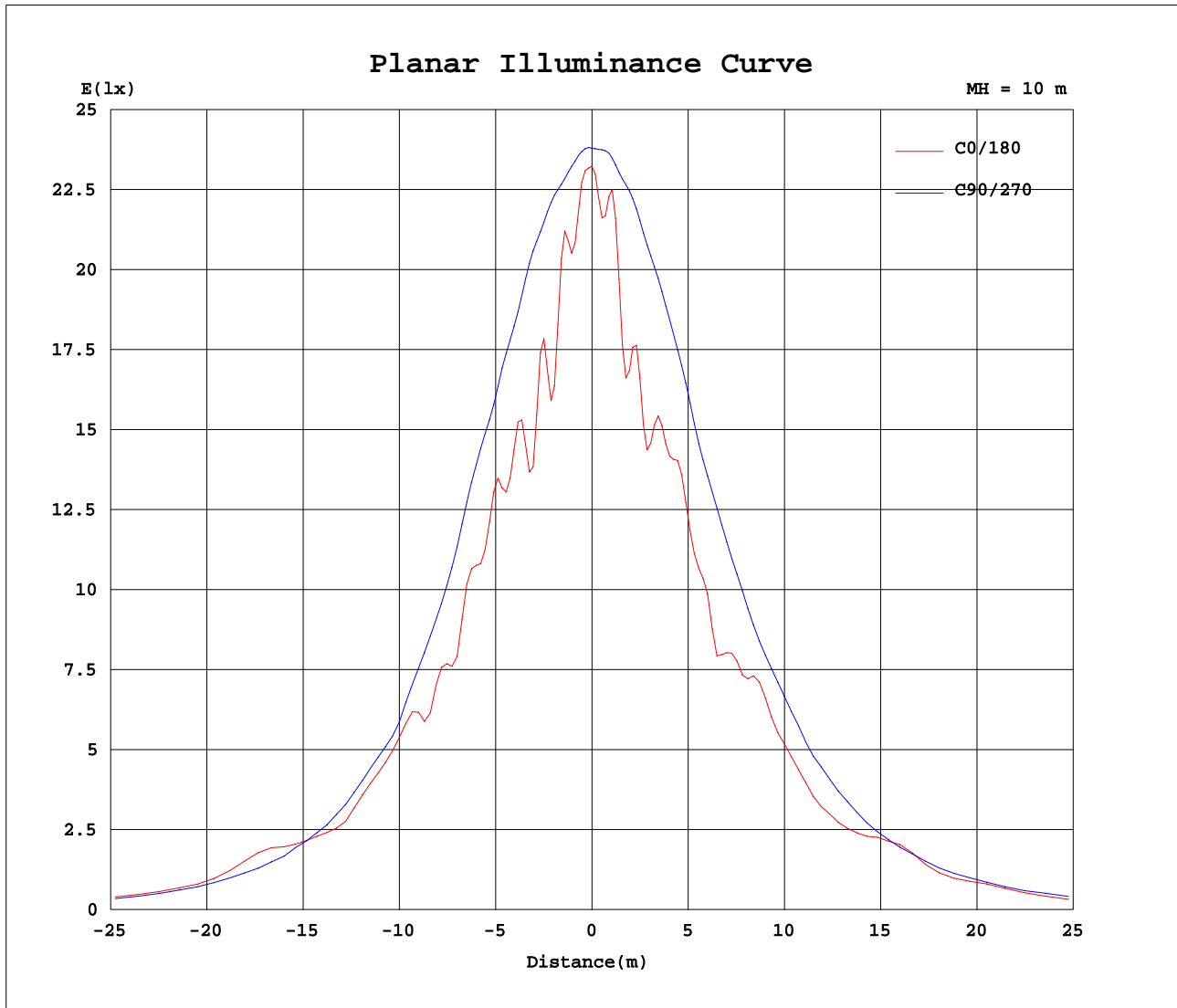
Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 lm		
NAME: LED Vapor Tight Fixture	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: Kili-LED Lighting Limited	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 01  
 Test Date: 2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9684]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 32DEG  
 Operators: 01  
 Test Date: 2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity: %  
 Test Distance: 9.190m [K=0.9684]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:229.7V I:0.2518A P:54.50W PF:0.9421 Lamp Flux:6881.04x1 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	2357	2357	2357	2357	2357	2357	2357	2357											
5	2138	2336	2343	2252	2286	2235	2369	2341											
10	1944	2100	2334	2047	1765	2080	2349	2165											
15	1959	1940	2328	1889	1706	1821	2324	1991											
20	1872	1900	2291	1667	1849	1621	2305	1937											
25	1796	1592	2252	1853	1852	1786	2261	1647											
30	1691	1840	2199	1802	1618	1736	2142	1921											
35	1460	1728	2043	1632	1482	1575	2071	1876											
40	1389	1592	1885	1406	1650	1387	1958	1711											
45	1545	1374	1644	1322	1485	1289	1865	1526											
50	1370	1311	1507	1496	1231	1462	1662	1420											
55	1233	1328	1261	1248	1233	1231	1426	1496											
60	1446	1135	1031	1003	1151	1044	1204	1251											
65	920	974	808	1015	901	1127	945	1092											
70	639	850	564	653	537	753	683	952											
75	476	616	344	449	369	484	431	718											
80	308	382	155	333	302	342	216	454											
85	241	196	46.4	138	208	178	67.1	210											
90	164	114	7.05	100	149	115	11.9	111											
95	90.2	85.4	5.40	75.7	78.1	83.2	5.78	94.4											
100	49.9	65.3	5.66	53.3	46.0	55.6	6.29	72.7											
105	36.7	41.6	4.97	35.7	35.6	36.5	5.28	44.4											
110	30.9	28.2	4.58	22.3	25.9	22.4	4.48	29.9											
115	25.4	19.2	4.46	16.3	23.5	16.1	4.13	19.9											
120	19.9	13.4	4.54	10.9	19.0	10.5	4.02	14.2											
125	18.3	10.00	4.65	8.11	15.4	7.56	4.04	10.2											
130	12.9	7.28	4.87	5.31	10.7	4.82	4.23	7.22											
135	10.4	5.44	5.14	4.63	8.68	4.27	4.39	5.10											
140	7.60	5.11	5.36	4.91	5.89	4.54	4.66	4.55											
145	5.43	5.31	5.58	5.17	5.04	4.87	5.02	4.81											
150	5.25	5.50	5.78	5.50	5.29	5.22	5.32	5.06											
155	5.49	5.77	5.98	5.87	5.54	5.68	5.58	5.35											
160	5.81	6.11	6.17	6.13	5.99	6.02	5.85	5.73											
165	6.38	6.38	6.33	6.37	6.47	6.32	6.08	6.03											
170	6.82	6.55	6.44	6.46	6.89	6.47	6.29	6.26											
175	6.97	6.64	6.55	6.53	7.06	6.60	6.45	6.41											
180	7.16	6.75	6.58	6.60	7.21	6.72	6.60	6.59											

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:32DEG  
 Operators:01  
 Test Date:2018-05-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:%  
 Test Distance:9.190m [K=0.9684]  
 Remarks: