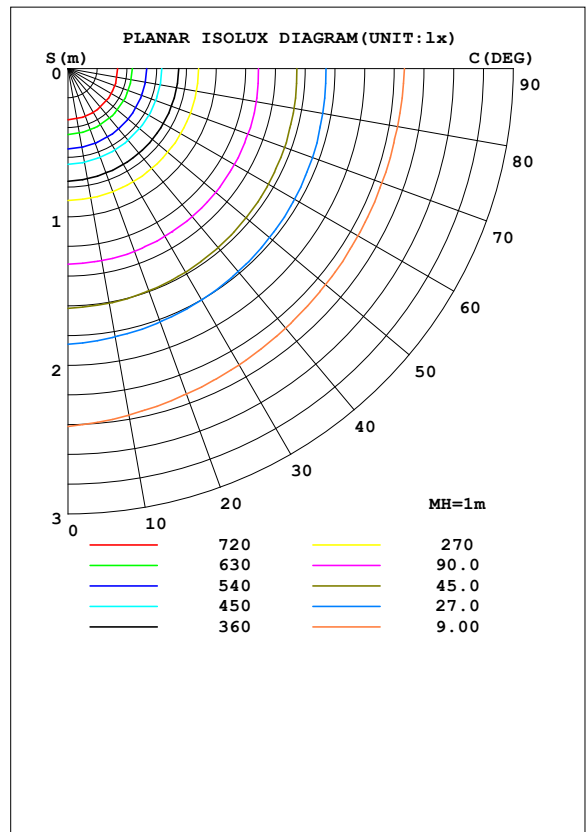
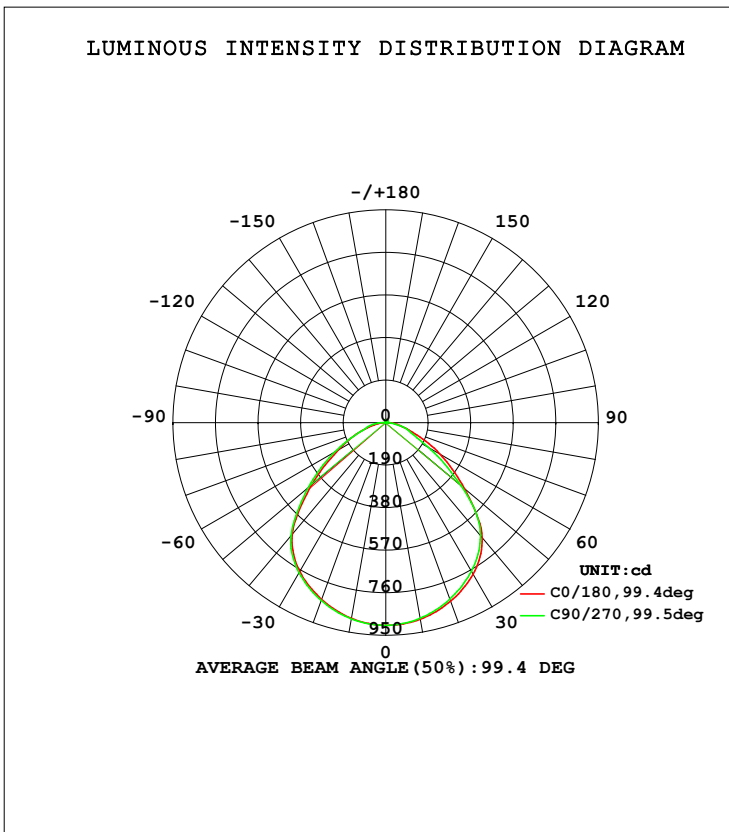


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 103.33 lm/W			
MODEL		Imax (cd)	905.1	S/MH (C0/180)	1.28
NOMINAL POWER (W)	22	LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	240	TOTAL FLUX (lm)	2207.7	η UP, DN (C0-180)	0.9, 49.0
NOMINAL FLUX (lm)	2207.74	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.8, 49.3
LAMPS INSIDE	1	η up (%)	1.7	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	240.4	η down (%)	98.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 03
 Test Date: 2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity: 60.0%
 Test Distance: 12.200m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	891.4	889.5	887.0	888.8	887.2	887.9	889.4	888.9	0- 10	85.61	85.61	3.88,3.88
20	848.0	842.4	838.5	840.8	839.6	839.2	844.9	842.6	10- 20	245.3	330.9	15,15
30	780.8	765.2	765.9	761.8	768.5	760.3	774.4	765.7	20- 30	372.6	703.5	31.9,31.9
40	670.2	653.6	658.1	649.0	649.6	642.7	659.6	648.8	30- 40	447.9	1151	52.2,52.2
50	460.1	458.1	438.6	452.7	431.3	434.4	453.0	442.7	40- 50	429.9	1581	71.6,71.6
60	278.2	241.1	217.1	239.5	245.2	231.4	264.8	242.1	50- 60	304.0	1885	85.4,85.4
70	129.0	93.45	111.3	87.77	123.7	113.6	124.1	120.7	60- 70	169.6	2055	93.1,93.1
80	55.78	49.52	42.71	43.44	44.70	61.27	66.65	64.26	70- 80	84.67	2139	96.9,96.9
90	4.303	2.161	1.770	1.996	1.611	2.508	5.050	4.281	80- 90	30.39	2170	98.3,98.3
100	2.465	2.568	2.454	2.842	2.539	2.226	2.108	2.274	90-100	2.213	2172	98.4,98.4
110	3.814	3.892	3.768	4.186	3.896	3.682	3.514	3.696	100-110	3.257	2175	98.5,98.5
120	5.258	5.582	5.496	5.690	5.469	5.403	5.232	5.415	110-120	4.569	2180	98.7,98.7
130	6.995	7.380	7.153	7.423	7.162	7.138	6.972	7.167	120-130	5.650	2186	99,99
140	8.683	8.999	8.815	8.972	8.763	8.772	8.636	8.823	130-140	6.174	2192	99.3,99.3
150	10.33	10.62	10.44	10.50	10.43	10.48	10.37	10.52	140-150	6.029	2198	99.5,99.5
160	11.94	12.09	11.93	11.98	12.03	11.95	11.96	11.94	150-160	5.185	2203	99.8,99.8
170	12.99	13.13	12.92	13.05	13.12	12.99	13.01	12.98	160-170	3.541	2206	99.9,99.9
180	13.44	13.46	13.29	13.37	13.42	13.39	13.37	13.36	170-180	1.261	2208	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

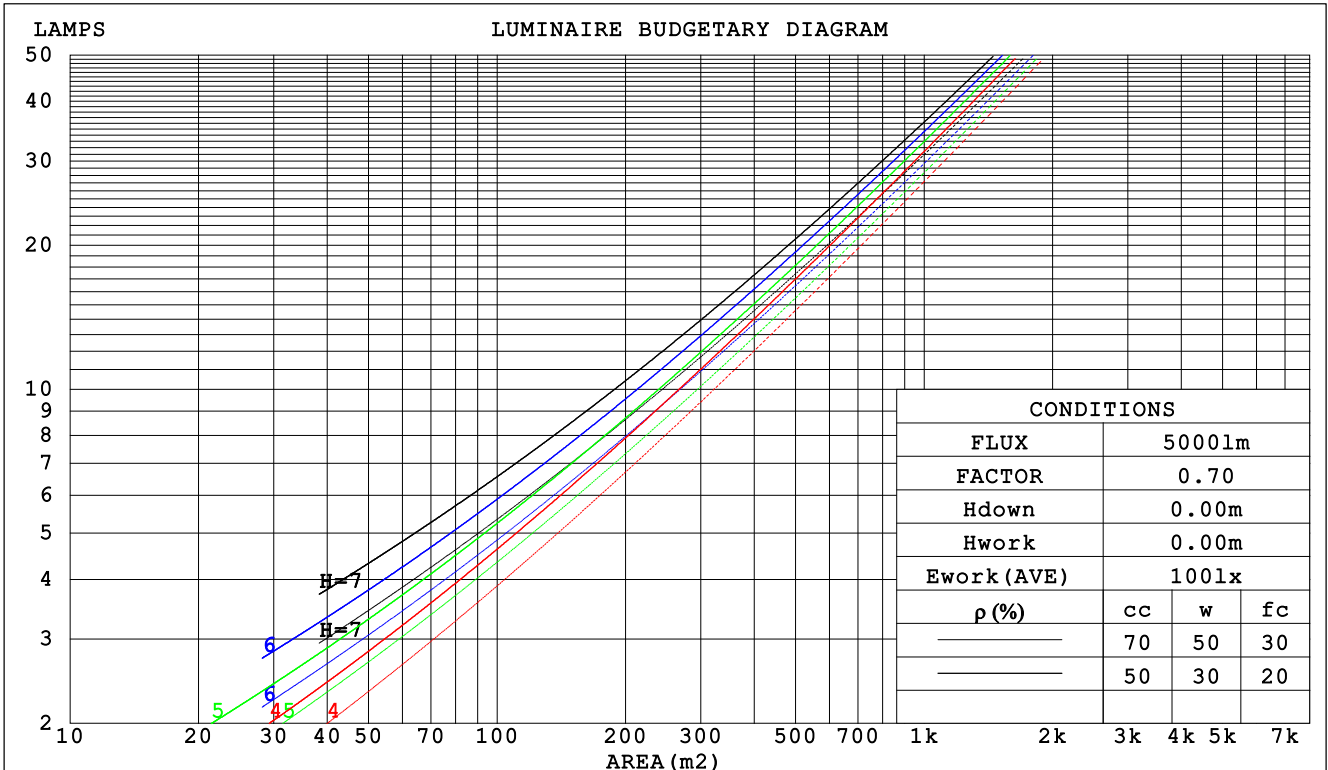
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	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						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	1.02	.98	1.03	.99	.96	.98	.96	.93	.94	.92	.90	.90	.89	.87	.85
2.0	.93	.87	.82	.91	.86	.81	.88	.83	.79	.84	.80	.77	.81	.78	.75	.73
3.0	.83	.76	.70	.81	.74	.69	.78	.72	.67	.75	.70	.66	.73	.68	.65	.63
4.0	.74	.66	.60	.73	.65	.59	.70	.64	.58	.68	.62	.57	.65	.61	.57	.54
5.0	.67	.58	.52	.66	.58	.52	.63	.56	.51	.61	.55	.50	.59	.54	.50	.48
6.0	.60	.52	.46	.59	.52	.46	.58	.50	.45	.56	.49	.45	.54	.49	.44	.42
7.0	.55	.47	.41	.54	.46	.41	.53	.45	.40	.51	.45	.40	.49	.44	.40	.38
8.0	.50	.42	.37	.50	.42	.37	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
9.0	.46	.38	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.42	.36	.32	.31
10.0	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.30	.39	.33	.29	.28



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	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	.274	.156	.049	.266	.152	.048	.252	.145	.046	.239	.138	.044	.227	.132	.042	
2.0	.261	.143	.044	.254	.140	.043	.242	.134	.042	.230	.129	.040	.220	.124	.039	
3.0	.244	.130	.039	.239	.128	.038	.228	.123	.037	.218	.119	.037	.208	.115	.036	
4.0	.228	.119	.035	.223	.117	.035	.213	.113	.034	.204	.110	.033	.196	.107	.032	
5.0	.213	.109	.031	.209	.107	.031	.200	.104	.031	.192	.101	.030	.185	.099	.030	
6.0	.199	.100	.029	.195	.099	.028	.188	.096	.028	.180	.094	.028	.174	.091	.027	
7.0	.187	.092	.026	.183	.091	.026	.176	.089	.026	.170	.087	.025	.164	.085	.025	
8.0	.176	.086	.024	.173	.085	.024	.166	.083	.024	.160	.081	.023	.155	.080	.023	
9.0	.166	.080	.022	.163	.079	.022	.157	.078	.022	.152	.076	.022	.147	.075	.022	
10.0	.156	.075	.021	.154	.074	.021	.149	.073	.021	.144	.071	.020	.139	.070	.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	.204	.204	.204	.174	.174	.174	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.191	.170	.150	.163	.146	.129	.112	.100	.090	.064	.058	.052	.021	.019	.017	
2.0	.181	.145	.115	.155	.125	.099	.106	.087	.069	.061	.050	.041	.020	.016	.013	
3.0	.173	.127	.091	.148	.110	.079	.102	.076	.056	.059	.045	.033	.019	.014	.011	
4.0	.165	.114	.075	.142	.098	.065	.097	.069	.046	.056	.040	.027	.018	.013	.009	
5.0	.158	.103	.063	.136	.089	.055	.093	.062	.039	.054	.037	.023	.017	.012	.008	
6.0	.151	.095	.055	.130	.082	.048	.089	.058	.034	.052	.034	.020	.017	.011	.007	
7.0	.144	.088	.048	.124	.076	.042	.086	.053	.030	.050	.031	.018	.016	.010	.006	
8.0	.138	.082	.044	.119	.071	.038	.082	.050	.027	.048	.030	.016	.016	.010	.005	
9.0	.133	.077	.040	.114	.067	.035	.079	.047	.025	.046	.028	.015	.015	.009	.005	
10.0	.127	.073	.037	.110	.063	.032	.076	.045	.023	.044	.026	.014	.014	.009	.005	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm										
NAME: PLDU3060-21W-940-Halcyon R249 W4					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:1		
MFR.: AXG					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	17.7	19.1	18.0	19.3	19.6	17.2	18.6	17.5	18.8	19.0
3H	18.4	19.7	18.7	19.9	20.2	17.8	19.0	18.1	19.3	19.6
4H	18.7	19.9	19.0	20.1	20.4	18.1	19.3	18.4	19.5	19.8
6H	18.9	20.0	19.2	20.3	20.6	18.2	19.4	18.6	19.7	20.0
8H	19.0	20.1	19.4	20.4	20.7	18.3	19.4	18.7	19.7	20.0
12H	19.1	20.1	19.4	20.4	20.8	18.3	19.3	18.7	19.7	20.0
4H 2H	17.9	19.1	18.2	19.4	19.7	17.5	18.7	17.8	18.9	19.2
3H	18.7	19.8	19.1	20.1	20.4	18.1	19.2	18.5	19.5	19.8
4H	19.1	20.0	19.5	20.4	20.7	18.5	19.5	18.9	19.8	20.2
6H	19.4	20.3	19.8	20.6	21.0	18.9	19.7	19.3	20.1	20.5
8H	19.6	20.4	20.0	20.8	21.2	18.9	19.7	19.4	20.1	20.5
12H	19.8	20.5	20.2	20.9	21.3	19.0	19.7	19.5	20.1	20.6
8H 4H	19.1	19.9	19.5	20.3	20.7	18.6	19.4	19.1	19.8	20.2
6H	19.6	20.2	20.1	20.7	21.1	19.1	19.7	19.5	20.1	20.6
8H	19.9	20.5	20.4	20.9	21.4	19.2	19.8	19.7	20.3	20.8
12H	20.1	20.6	20.6	21.1	21.6	19.4	19.9	19.9	20.3	20.8
12H 4H	19.1	19.8	19.5	20.2	20.7	18.6	19.3	19.1	19.7	20.2
6H	19.6	20.2	20.1	20.7	21.1	19.1	19.7	19.6	20.1	20.6
8H	20.0	20.5	20.5	20.9	21.4	19.3	19.8	19.8	20.3	20.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.5 / - 0.5				
1.5H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				
2.0H	+ 0.7 / - 0.8					+ 1.0 / - 1.0				

CIE Pub.117 Corrected 2208 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.8)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:

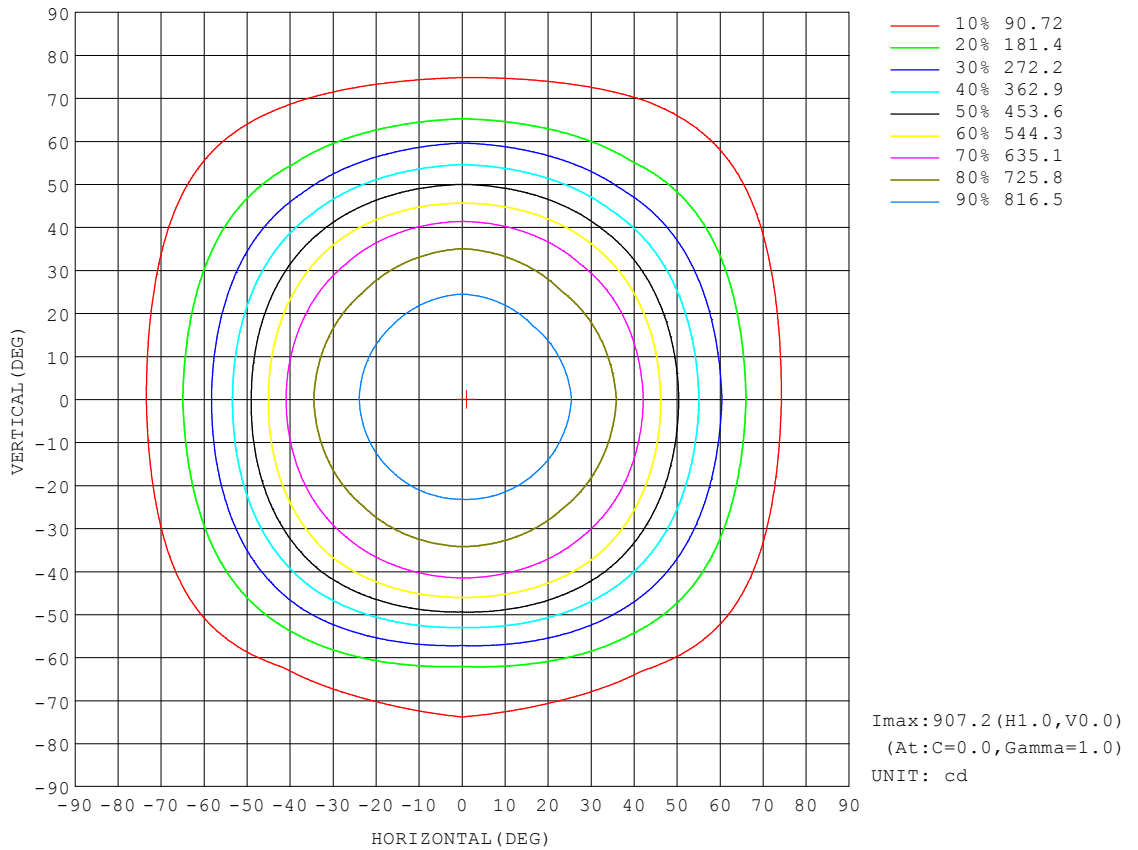
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	62	51	44	61	50	44	60	50	44	38
0.80	72	61	54	71	61	54	69	60	54	47
1.00	80	70	64	79	70	63	77	70	63	56
1.25	87	78	71	86	77	71	83	75	70	63
1.50	92	83	77	90	82	76	87	80	75	68
2.00	98	90	85	96	89	84	92	87	82	75
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	96	92	98	93	90	81
4.00	107	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	102	99	97	87
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:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:

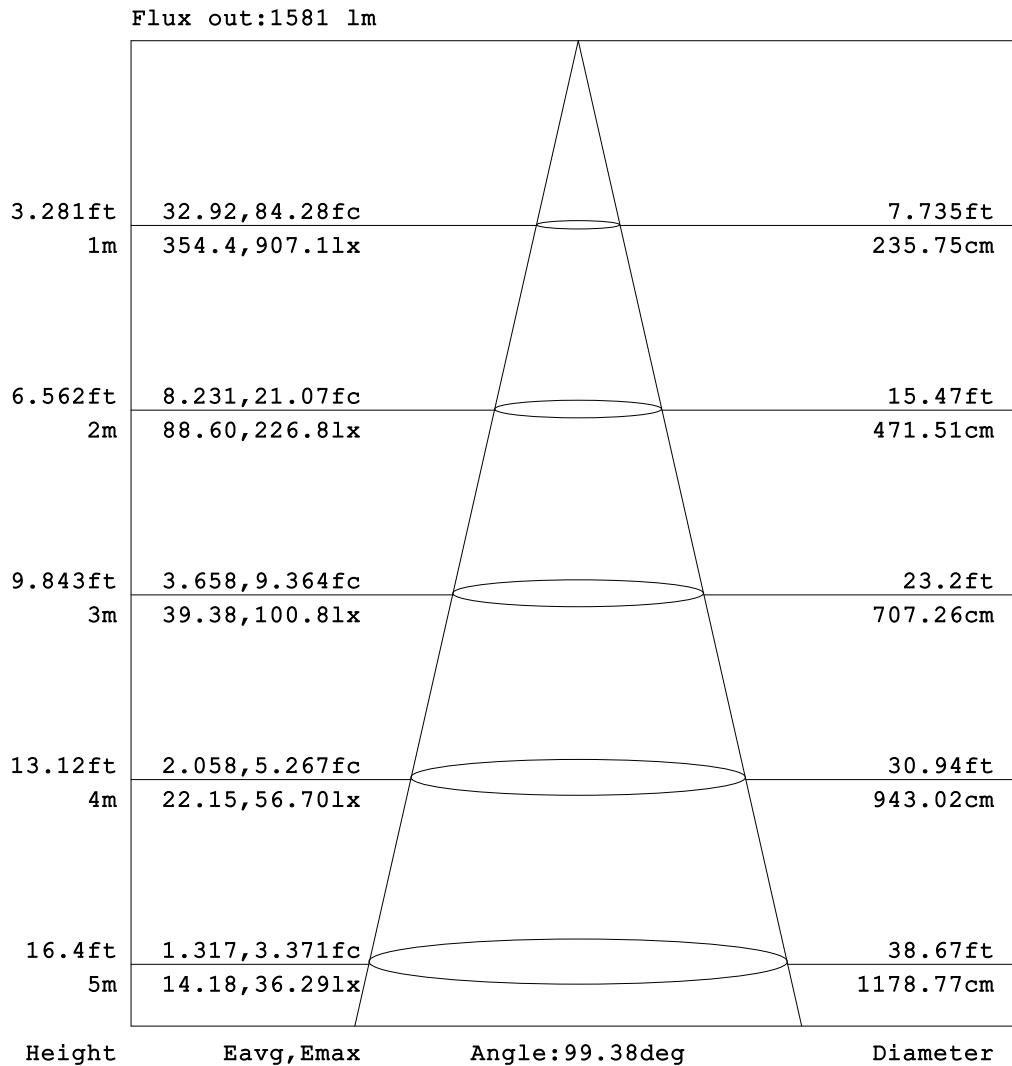


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 03
 Test Date: 2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity: 60.0%
 Test Distance: 12.200m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:



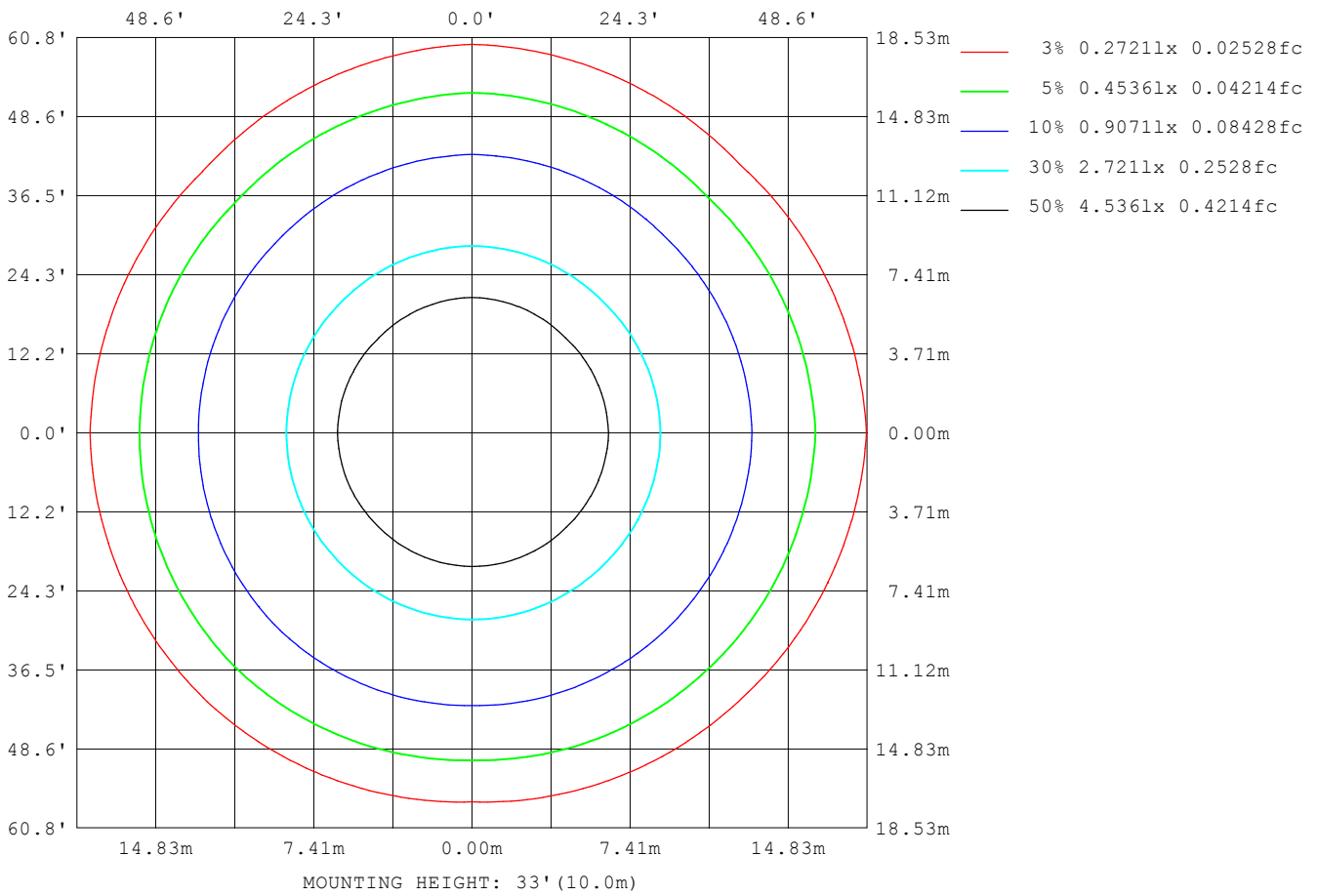
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

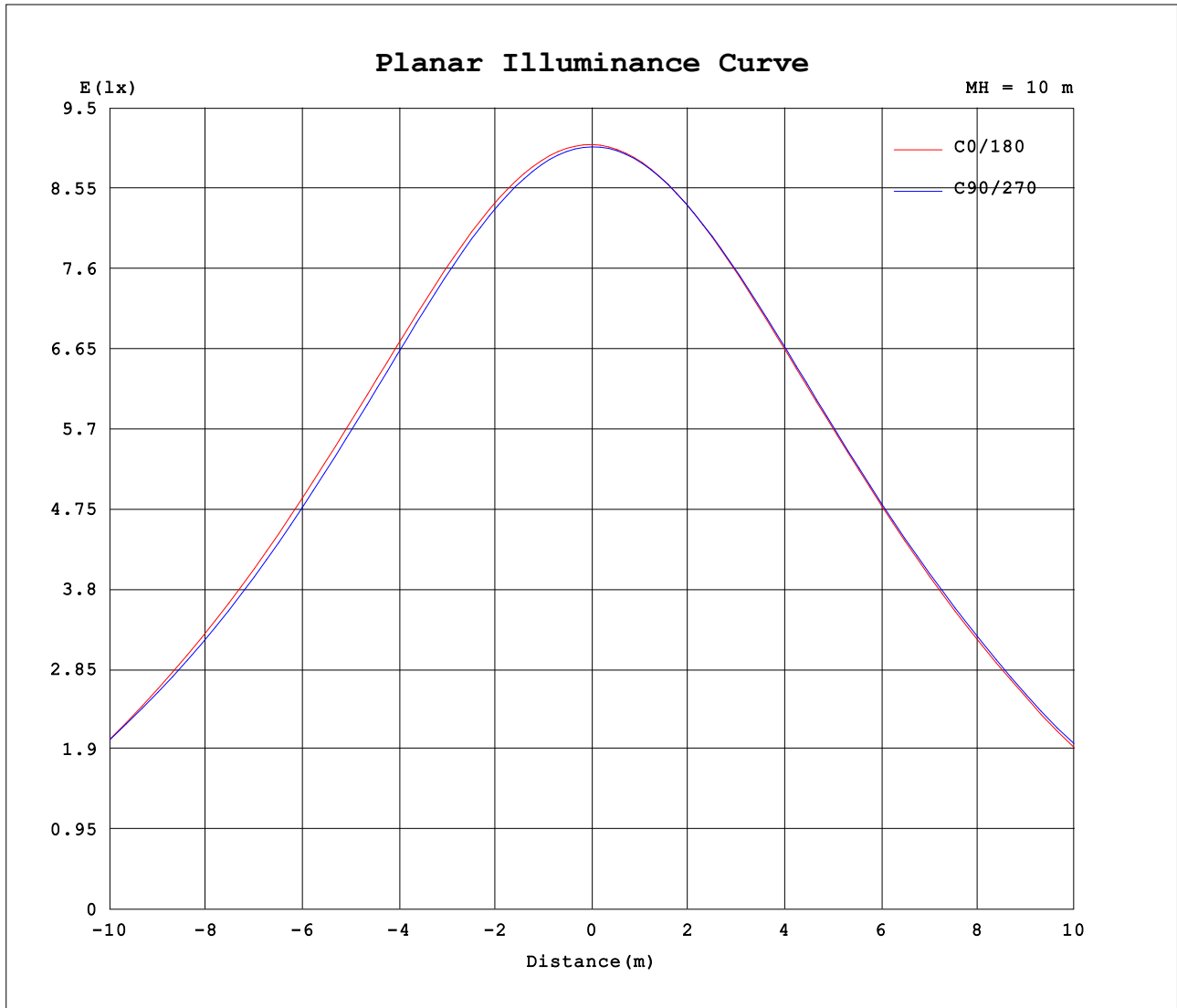
Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 03
 Test Date: 2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity: 60.0%
 Test Distance: 12.200m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.3V I:0.0954A P:21.37W PF:0.9325 Lamp Flux:2207.74x1 lm		
NAME: PLDU3060-21W-940-Halcyon R249 W4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: AXG	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	45	90	135	180	225	270	315										
0	905	905	905	905	905	905	905	905										
5	902	901	900	901	900	900	902	901										
10	891	890	887	889	887	888	889	889										
15	873	870	866	869	867	867	870	869										
20	848	842	838	841	840	839	845	843										
25	818	808	805	805	807	804	813	808										
30	781	765	766	762	768	760	774	766										
35	734	714	718	710	718	707	727	713										
40	670	654	658	649	650	643	660	649										
45	571	574	571	567	544	554	557	560										
50	460	458	439	453	431	434	453	443										
55	364	340	319	337	330	326	355	336										
60	278	241	217	239	245	231	265	242										
65	197	156	147	150	180	161	185	168										
70	129	93.4	111	87.8	124	114	124	121										
75	84.9	62.9	82.8	58.1	76.7	84.2	89.8	90.8										
80	55.8	49.5	42.7	43.4	44.7	61.3	66.6	64.3										
85	29.1	30.0	16.2	25.5	19.3	32.9	38.4	35.1										
90	4.30	2.16	1.77	2.00	1.61	2.51	5.05	4.28										
95	1.99	2.11	1.92	2.36	2.04	1.66	1.59	1.70										
100	2.47	2.57	2.45	2.84	2.54	2.23	2.11	2.27										
105	3.10	3.17	3.03	3.44	3.18	2.92	2.77	2.95										
110	3.81	3.89	3.77	4.19	3.90	3.68	3.51	3.70										
115	4.37	4.72	4.61	4.98	4.70	4.52	4.34	4.55										
120	5.26	5.58	5.50	5.69	5.47	5.40	5.23	5.41										
125	6.14	6.48	6.33	6.55	6.33	6.30	6.12	6.32										
130	6.99	7.38	7.15	7.42	7.16	7.14	6.97	7.17										
135	7.86	8.21	8.00	8.22	7.95	7.96	7.82	8.02										
140	8.68	9.00	8.82	8.97	8.76	8.77	8.64	8.82										
145	9.50	9.81	9.62	9.73	9.59	9.61	9.49	9.67										
150	10.3	10.6	10.4	10.5	10.4	10.5	10.4	10.5										
155	11.2	11.4	11.3	11.3	11.3	11.3	11.2	11.3										
160	11.9	12.1	11.9	12.0	12.0	11.9	12.0	11.9										
165	12.6	12.7	12.5	12.6	12.7	12.5	12.6	12.5										
170	13.0	13.1	12.9	13.0	13.1	13.0	13.0	13.0										
175	13.3	13.4	13.2	13.4	13.4	13.3	13.3	13.3										
180	13.4	13.5	13.3	13.4	13.4	13.4	13.4	13.4										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:03
 Test Date:2020-05-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.281
 Humidity:60.0%
 Test Distance:12.200m [K=1.0000]
 Remarks: