



Light Output Ratio:	51.7%	
Luminaire Power:	22.63 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: K-LITE
Test Date: 10 October 2020

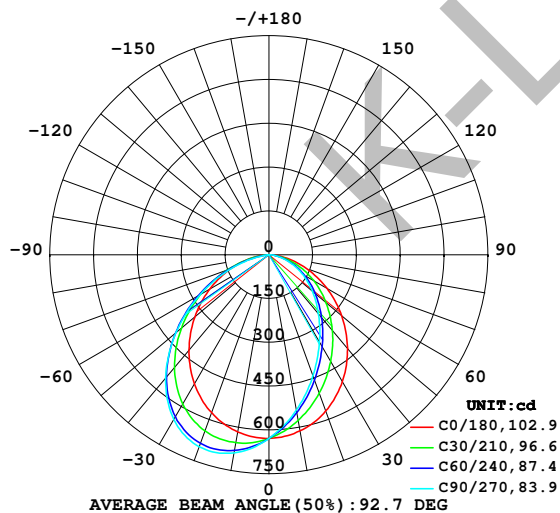
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

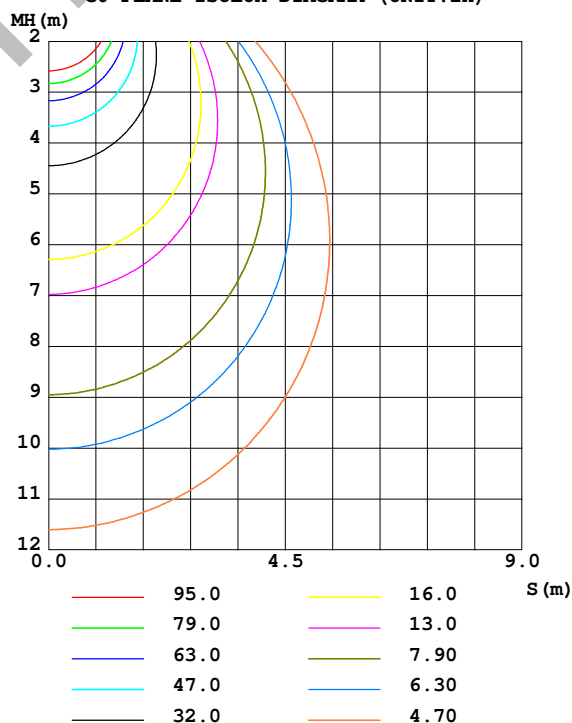
Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 68.30 lm/W
MODEL	KL-2773	I _{max} (cd)	701.9	S/MH (C0/180)	1.21	
NOMINAL POWER (W)	24	LOR (%)	51.7	S/MH (C90/270)	1.46	
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1545.5	η UP, DN (C0-180)	0.0, 20.8	
NOMINAL FLUX (lm)	2987.04	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 30.9	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	230	η down (%)	51.7	CIBSE SHR MAX	1.30	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: K-LITE
 Test Date: 10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
 Humidity: 65.0%
 Test Distance: 1.825m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

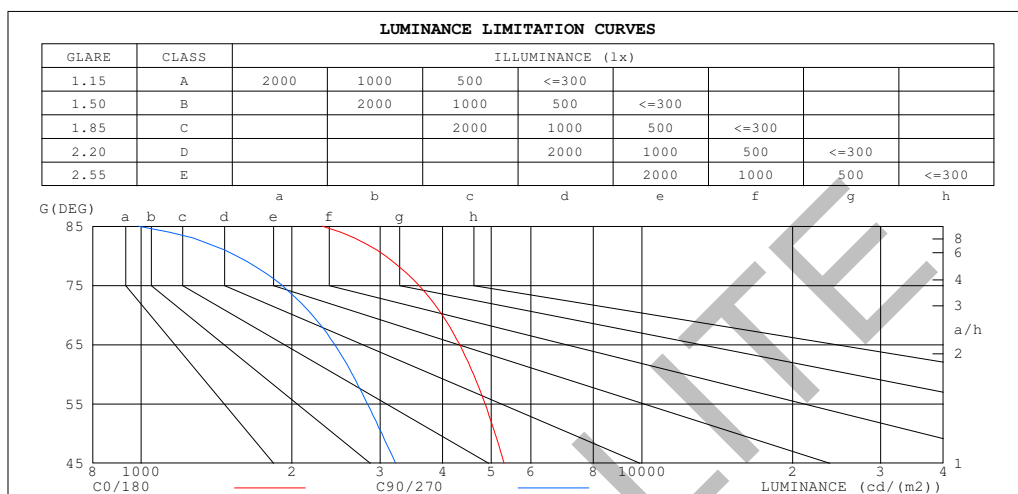
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	612.6	561.3	540.6	562.8	616.2	668.6	688.3	665.3	0- 10	59.36	59.36	3.84, 1.99
20	569.5	477.7	441.4	480.4	575.4	667.3	699.2	661.2	10- 20	168.1	227.5	14.7, 7.62
30	503.1	389.8	345.9	391.9	510.5	619.9	651.6	611.2	20- 30	248.7	476.2	30.8, 15.9
40	419.1	304.9	263.8	306.4	426.4	528.9	550.8	520.1	30- 40	288.2	764.3	49.5, 25.6
50	325.3	227.4	194.6	227.8	331.4	408.7	416.2	400.7	40- 50	282.7	1047	67.7, 35.1
60	229.1	155.8	132.1	155.7	233.2	277.0	271.7	271.6	50- 60	237.8	1285	83.1, 43
70	135.7	89.58	75.12	88.85	137.5	149.5	136.0	147.1	60- 70	165.3	1450	93.8, 48.5
80	53.12	32.38	26.92	31.54	52.40	41.81	25.27	42.11	70- 80	81.36	1532	99.1, 51.3
90	0.0181	0.1335	0.1800	0.1181	0.0093	0.0156	0.0143	0.0111	80- 90	13.99	1545	100, 51.7
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: K-LITE
 Test Date: 10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
 Humidity: 65.0%
 Test Distance: 1.825m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2299	987
80	3079	1550
75	3588	1913
70	3994	2196
65	4328	2434
60	4611	2642
55	4864	2831
50	5094	3027
45	5306	3223

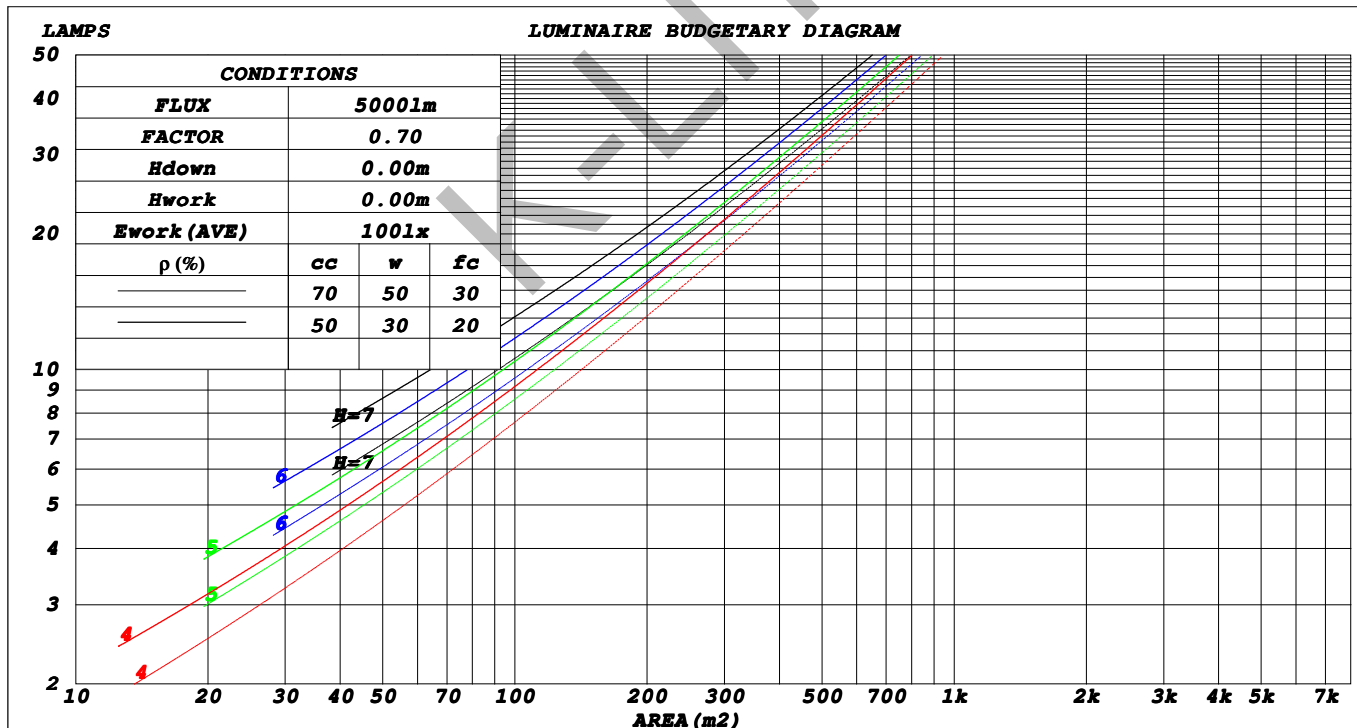
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: K-LITE
Test Date: 10 October 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding 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	.62	.62	.62	.60	.60	.60	.57	.57	.57	.55	.55	.55	.53	.53	.53	.52
1.0	.54	.52	.51	.53	.51	.50	.51	.50	.48	.49	.48	.47	.47	.46	.45	.44
2.0	.48	.45	.42	.47	.44	.41	.45	.42	.40	.43	.41	.39	.42	.40	.38	.37
3.0	.42	.38	.35	.41	.38	.35	.40	.37	.34	.39	.36	.34	.37	.35	.33	.32
4.0	.38	.33	.30	.37	.33	.30	.36	.32	.29	.35	.31	.29	.33	.31	.29	.27
5.0	.34	.29	.26	.33	.29	.26	.32	.28	.26	.31	.28	.25	.30	.27	.25	.24
6.0	.31	.26	.23	.30	.26	.23	.29	.25	.23	.28	.25	.22	.27	.24	.22	.21
7.0	.28	.23	.20	.27	.23	.20	.27	.23	.20	.26	.22	.20	.25	.22	.20	.19
8.0	.25	.21	.18	.25	.21	.18	.24	.21	.18	.24	.20	.18	.23	.20	.18	.17
9.0	.23	.19	.16	.23	.19	.16	.22	.19	.16	.22	.19	.16	.21	.18	.16	.15
10.0	.22	.18	.15	.21	.17	.15	.21	.17	.15	.20	.17	.15	.20	.17	.15	.14



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: K-LITE
Test Date: 10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding 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	.147	.084	.026	.143	.082	.026	.137	.078	.025	.130	.075	.024	.125	.072	.023	
2.0	.141	.077	.024	.138	.076	.023	.132	.073	.023	.126	.071	.022	.121	.069	.022	
3.0	.132	.070	.021	.129	.069	.021	.124	.067	.020	.119	.065	.020	.114	.063	.020	
4.0	.123	.064	.019	.120	.063	.019	.116	.061	.018	.111	.060	.018	.107	.058	.018	
5.0	.114	.058	.017	.112	.057	.017	.108	.056	.017	.104	.055	.016	.100	.054	.016	
6.0	.106	.053	.015	.104	.053	.015	.101	.052	.015	.097	.051	.015	.094	.050	.015	
7.0	.099	.049	.014	.098	.049	.014	.094	.048	.014	.091	.047	.014	.088	.046	.013	
8.0	.093	.046	.013	.092	.045	.013	.089	.044	.013	.086	.044	.013	.083	.043	.012	
9.0	.088	.042	.012	.086	.042	.012	.083	.041	.012	.081	.041	.012	.079	.040	.012	
10.0	.082	.040	.011	.081	.039	.011	.079	.039	.011	.077	.038	.011	.074	.037	.011	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.099	.099	.099	.084	.084	.084	.057	.057	.057	.033	.033	.033	.011	.011	.011	
1.0	.092	.081	.071	.079	.069	.061	.054	.048	.042	.031	.028	.024	.010	.009	.008	
2.0	.088	.068	.052	.075	.059	.045	.052	.041	.031	.030	.024	.018	.010	.008	.006	
3.0	.084	.059	.040	.072	.051	.034	.049	.035	.024	.028	.021	.014	.009	.007	.005	
4.0	.080	.052	.031	.068	.045	.027	.047	.031	.019	.027	.018	.011	.009	.006	.004	
5.0	.076	.047	.025	.065	.040	.022	.045	.028	.015	.026	.017	.009	.008	.005	.003	
6.0	.072	.042	.021	.062	.037	.018	.043	.026	.013	.025	.015	.008	.008	.005	.003	
7.0	.069	.039	.018	.059	.034	.015	.041	.024	.011	.024	.014	.006	.008	.005	.002	
8.0	.066	.036	.015	.056	.031	.013	.039	.022	.009	.023	.013	.006	.007	.004	.002	
9.0	.062	.033	.013	.054	.029	.012	.037	.020	.008	.022	.012	.005	.007	.004	.002	
10.0	.060	.031	.012	.051	.027	.010	.036	.019	.007	.021	.011	.004	.007	.004	.001	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:K-LITE
 Test Date:10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:1.825m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm											
NAME: SUDO EXTENDED - OPEN FRAME					TYPE:PATH FINDERS			WEIGHT:1.79Kg			
SPEC.:WW, NICHIA					DIM.: 490 x 87 x 85			SERIAL No.:2110			
MFR.: K-LITE					SUR.:			Shielding 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	3H	13.6	15.0	13.8	15.2	15.4	11.2	12.6	11.4	12.8	13.0
	4H	15.1	16.4	15.4	16.7	16.9	12.3	13.6	12.6	13.9	14.1
	6H	15.7	17.0	16.0	17.2	17.5	12.7	14.0	13.0	14.2	14.5
	8H	16.1	17.3	16.4	17.6	17.8	13.0	14.2	13.3	14.4	14.7
	8H	16.2	17.4	16.6	17.7	17.9	13.0	14.2	13.4	14.5	14.7
	12H	16.3	17.4	16.6	17.7	18.0	13.0	14.1	13.4	14.4	14.7
4H	2H	13.8	15.1	14.1	15.4	15.6	11.9	13.2	12.2	13.4	13.7
	3H	15.5	16.6	15.9	16.9	17.2	13.2	14.3	13.5	14.6	14.9
	4H	16.2	17.2	16.6	17.6	17.9	13.7	14.7	14.1	15.0	15.3
	6H	16.8	17.7	17.2	18.0	18.4	14.0	14.9	14.4	15.3	15.6
	8H	17.0	17.8	17.4	18.1	18.5	14.1	14.9	14.5	15.3	15.7
	12H	17.1	17.8	17.5	18.2	18.6	14.1	14.9	14.6	15.3	15.7
8H	4H	16.3	17.1	16.7	17.5	17.9	14.0	14.8	14.4	15.2	15.6
	6H	16.9	17.6	17.4	18.0	18.5	14.4	15.1	14.9	15.5	15.9
	8H	17.2	17.8	17.6	18.2	18.7	14.6	15.2	15.0	15.6	16.0
	12H	17.3	17.9	17.8	18.3	18.8	14.6	15.2	15.1	15.6	16.1
12H	4H	16.3	17.0	16.7	17.4	17.8	14.0	14.8	14.4	15.2	15.6
	6H	16.9	17.6	17.4	18.0	18.4	14.5	15.1	14.9	15.5	16.0
	8H	17.2	17.7	17.7	18.2	18.6	14.7	15.2	15.1	15.6	16.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3					
1.5H	+ 0.2 / - 0.3					+ 0.1 / - 0.3					
2.0H	+ 0.5 / - 0.7					+ 0.2 / - 0.4					

CIE Pub.117, 2987 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.8$)
Area: 0.1 m²

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:K-LITE
Test Date:10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity:65.0%
Test Distance:1.825m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:

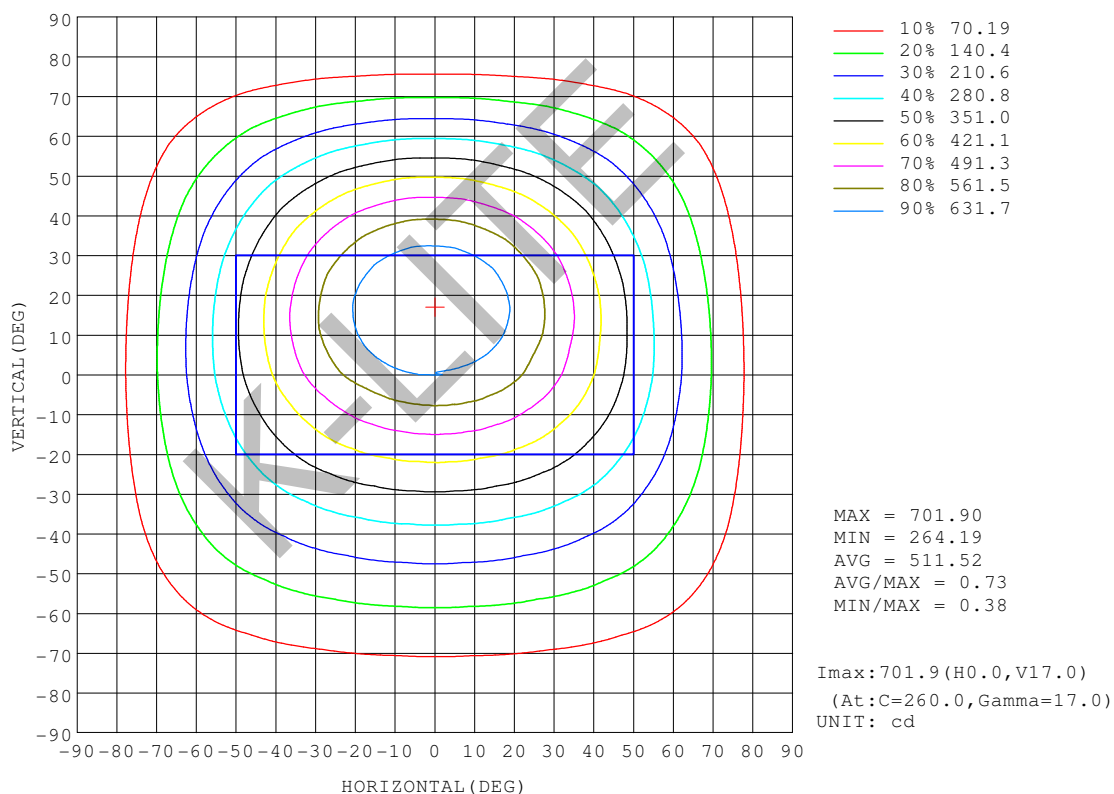
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	31	25	22	31	25	22	30	25	22	19
0.80	36	31	27	36	30	27	35	30	27	23
1.00	41	35	32	40	35	32	39	36	31	28
1.25	44	39	36	44	39	36	42	38	35	32
1.50	47	42	39	46	42	38	44	41	38	34
2.00	50	46	43	49	45	43	48	44	42	38
2.50	52	48	45	51	48	45	49	46	44	40
3.00	54	50	48	53	50	47	51	48	46	42
4.00	56	53	51	54	52	50	52	50	49	44
5.00	57	54	53	56	53	52	53	52	50	46
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: K-LITE
 Test Date: 10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
 Humidity: 65.0%
 Test Distance: 1.825m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENTED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:

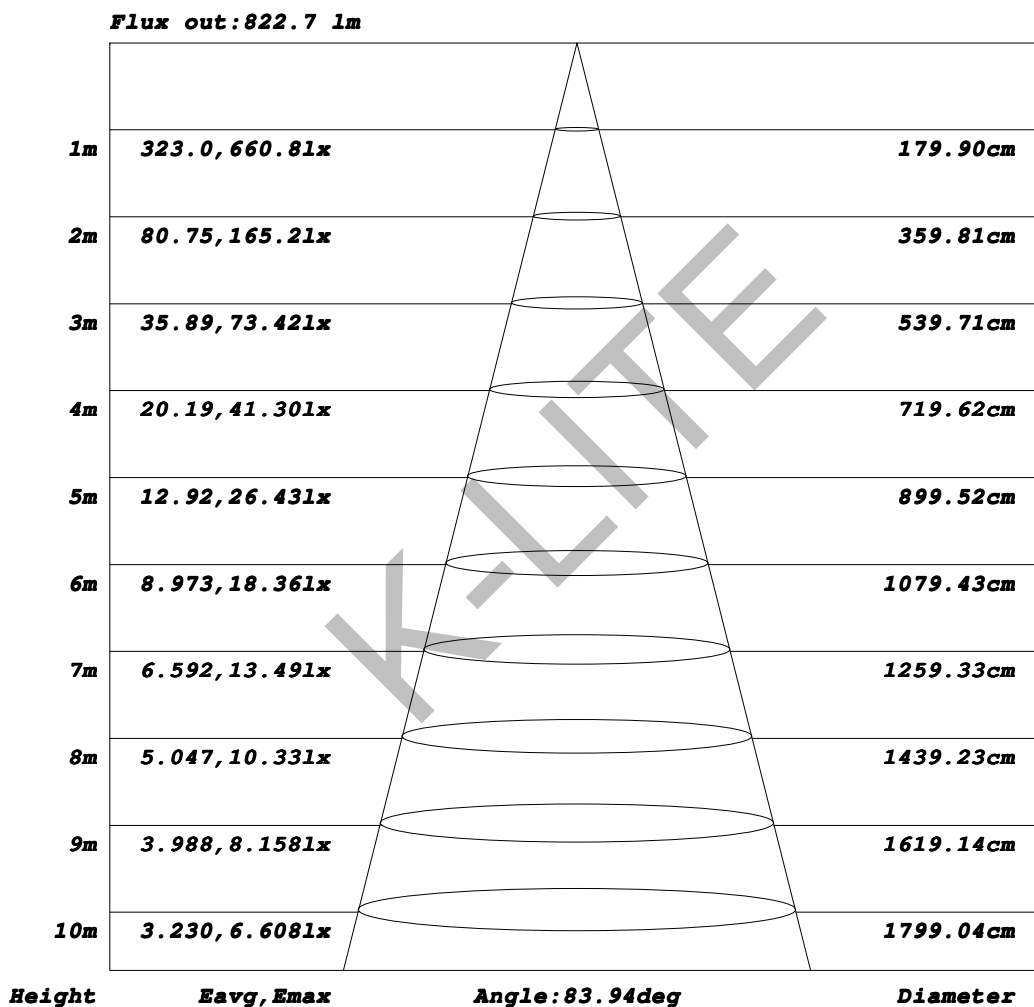


C Range: 0 - 360DEG
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γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

AAI Figure

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:



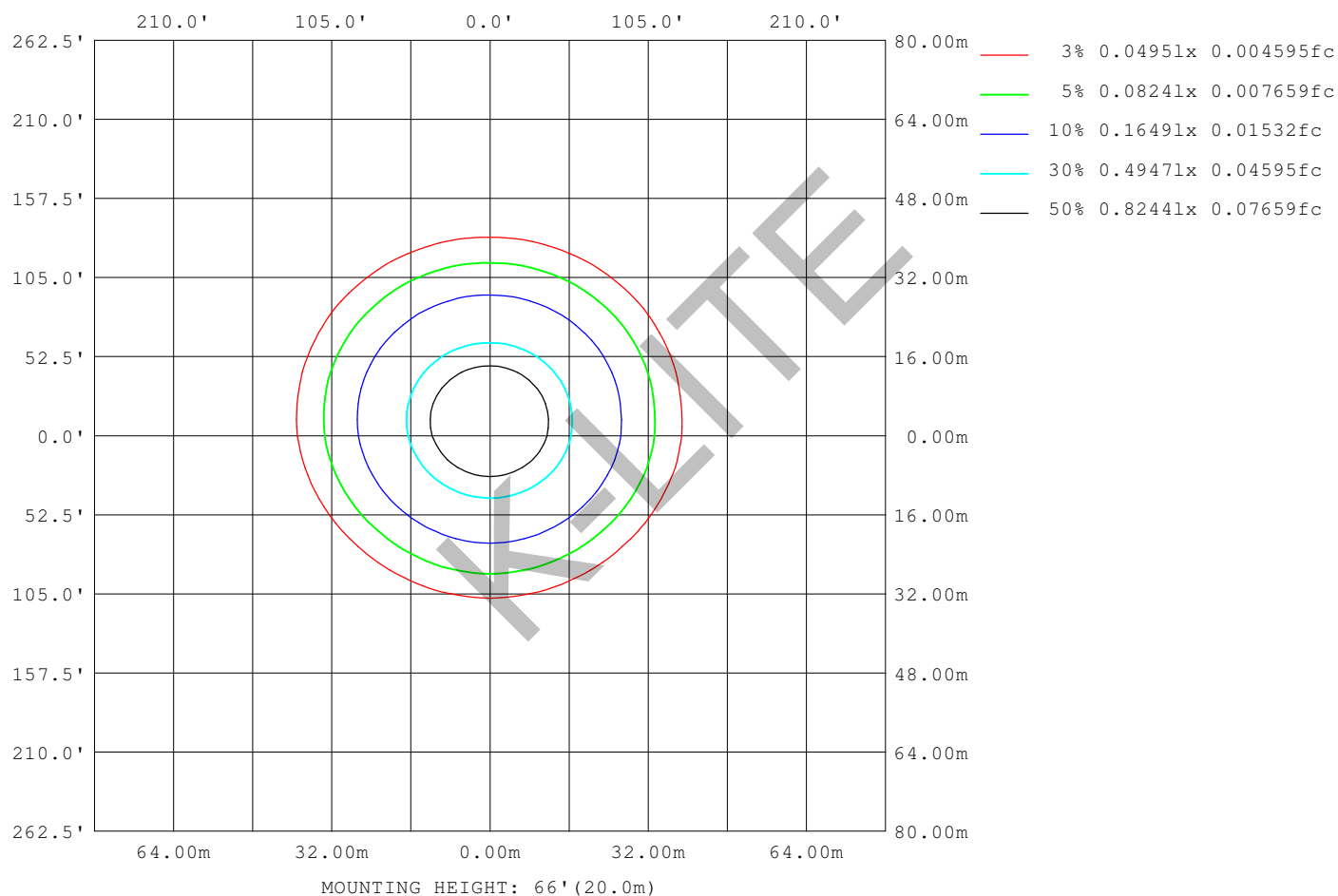
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:K-LITE
 Test Date:10 October 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.417
 Humidity:65.0%
 Test Distance:1.825m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 10.0DEG
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γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:110.21V I:0.2059A P:22.627W PF:0.9971 Freq:49.98Hz Lamp Flux:2987.04x1 lm		
NAME: SUDO EXTENDED - OPEN FRAME	TYPE:PATH FINDERS	WEIGHT:1.79Kg
SPEC.:WW, NICHIA	DIM.: 490 x 87 x 85	SERIAL No.:2110
MFR.: K-LITE	SUR.:	Shielding Angle:

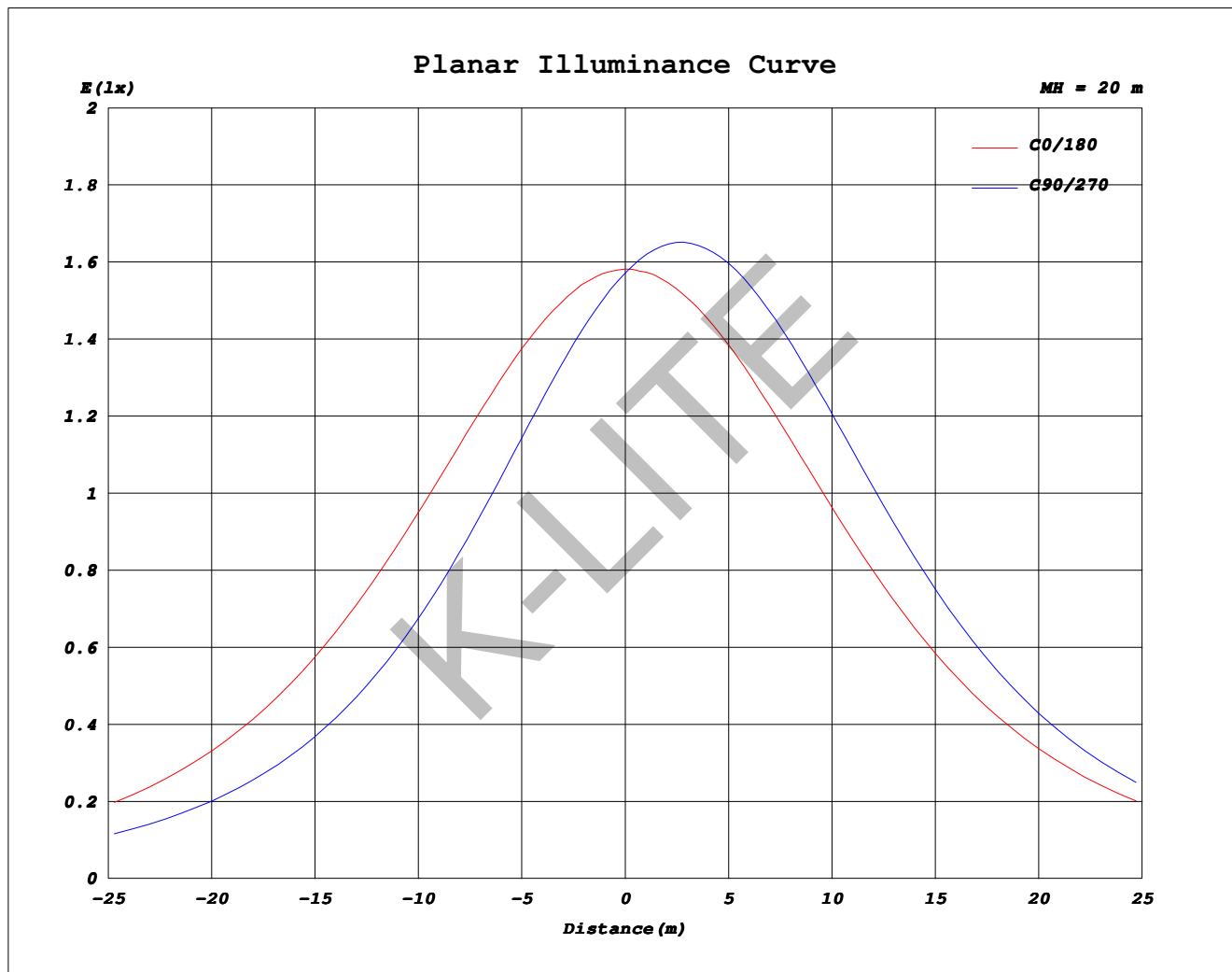
AvgL	cd/m2
L_0~180 (65) av	4334
L_0~180 (75) av	3577
L_0~180 (85) av	2203
L_90~270 (65) av	3606
L_90~270 (75) av	2426
L_90~270 (85) av	561
L_45 (65) av	3923
L_45 (75) av	2902
L_45 (85) av	838

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: K-LITE
Test Date: 10 October 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417
Humidity: 65.0%
Test Distance: 1.825m [K=1.0000]
Remarks:

Planar Illuminance Curve



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