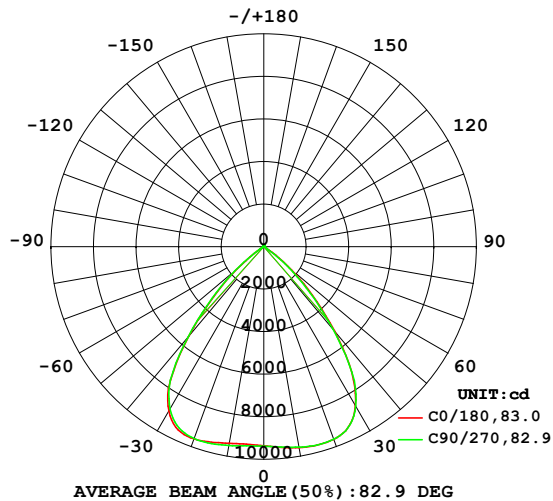


LUMINAIRE PHOTOMETRIC TEST REPORT

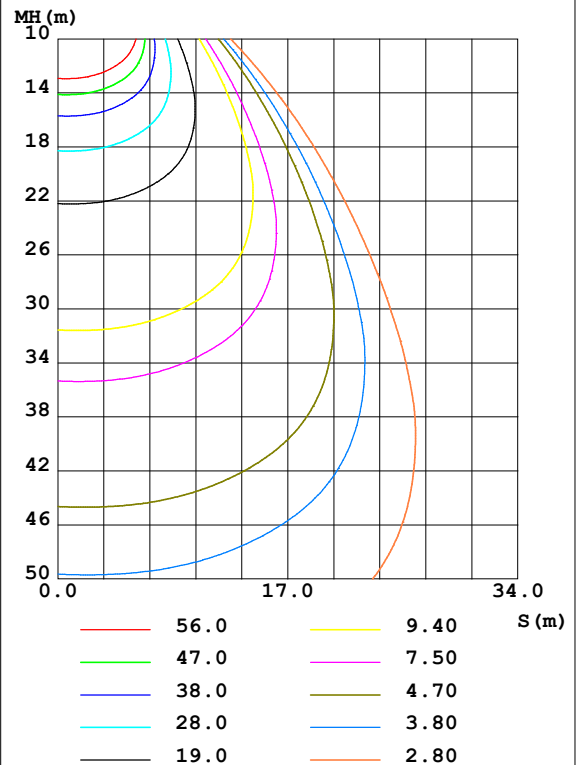
Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 163.09 lm/W			
MODEL		Imax(cd)	9677	S/MH(C0/180)	1.20
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	100	TOTAL FLUX(lm)	15841	□ UP,DN(C0-180)	0.5,48.8
NOMINAL FLUX(lm)	15840.6	CIE CLASS	DIRECT	□ UP,DN(C180-360)	0.5,50.2
LAMPS INSIDE	1	□ up(%)	1.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	□ down(%)	99.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

□ Range: 0 - 180DEG
□ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

°	C0	C45	C90	C135	C180	C225	C270	C315	°	□ zone	□ total	%lum, lamp
10	9591	9603	9570	9479	9385	9390	9490	9589	0- 10	902.0	902.0	5.69,5.69
20	9638	9646	9632	9644	9616	9609	9597	9628	10- 20	2721	3623	22.9,22.9
30	8622	8541	8645	8910	8928	8975	8813	8646	20- 30	4316	7939	50.1,50.1
40	5174	4883	5060	5447	5477	5781	5541	5156	30- 40	4531	12471	78.7,78.7
50	1717	1536	1565	1699	1673	1829	1796	1628	40- 50	2564	15035	94.9,94.9
60	136.5	114.0	117.1	127.8	122.6	152.9	164.6	147.3	50- 60	551.3	15586	98.4,98.4
70	35.24	31.09	31.93	33.93	33.58	40.76	46.67	42.67	60- 70	67.76	15654	98.8,98.8
80	11.83	11.10	10.93	11.16	10.45	12.49	14.11	13.24	70- 80	23.79	15678	99,99
90	2.324	2.443	2.391	2.361	2.143	1.947	1.921	2.056	80- 90	6.336	15684	99,99
100	5.327	5.515	5.530	5.145	4.831	4.457	4.546	4.799	90-100	3.700	15688	99,99
110	11.53	11.72	11.81	10.93	10.65	9.770	10.29	10.53	100-110	8.102	15696	99.1,99.1
120	20.91	20.68	21.25	19.59	19.57	18.14	19.44	19.26	110-120	14.99	15711	99.2,99.2
130	31.90	30.76	32.31	29.62	30.88	28.31	30.59	29.56	120-130	22.47	15733	99.3,99.3
140	41.92	40.83	42.17	39.65	41.44	38.53	41.76	39.83	130-140	27.58	15761	99.5,99.5
150	49.80	50.94	50.53	50.21	50.39	49.78	50.49	51.24	140-150	28.58	15790	99.7,99.7
160	59.84	60.64	60.94	59.81	60.51	60.01	60.68	61.62	150-160	25.45	15815	99.8,99.8
170	71.17	70.85	71.77	70.28	71.42	70.54	71.66	71.82	160-170	18.55	15834	100,100
180	78.09	76.94	78.08	77.32	78.03	77.02	78.04	77.41	170-180	7.051	15841	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 14047 lm

%lum = 88.7%

%lamp = 88.7%

Conical surface Flux(120deg): 15586 lm

%lum = 98.4%

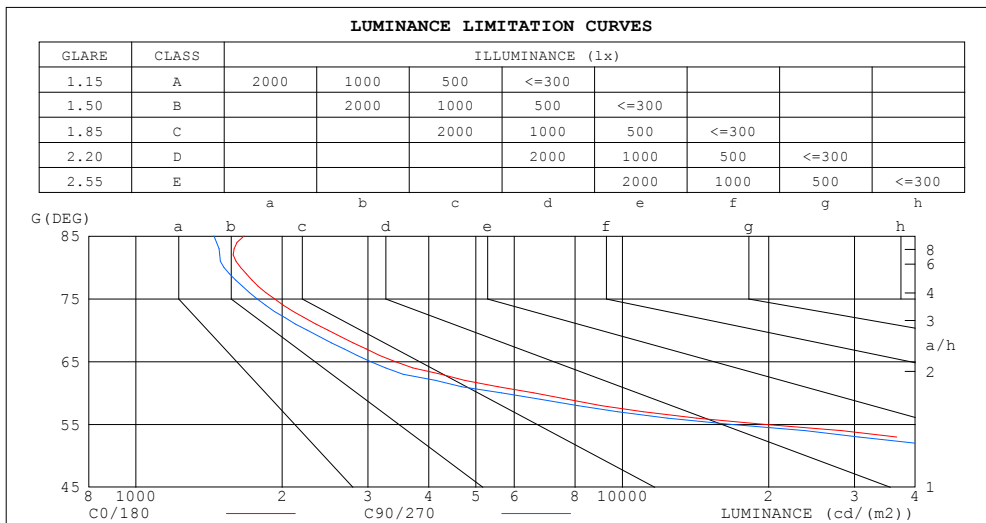
%lamp = 98.4%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1669	1449
80	1641	1517
75	1927	1772
70	2483	2249
65	3410	3031
60	6579	5641
55	19434	16565
50	64358	58660
45	110661	105791

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients (WEC)					
0.0						
1.0	.202 .115 .036	.195 .111 .035	.181 .104 .033	.169 .097 .031	.158 .091 .029	
2.0	.196 .108 .033	.190 .105 .032	.179 .099 .031	.168 .095 .030	.159 .090 .028	
3.0	.189 .100 .030	.183 .098 .030	.174 .094 .029	.165 .090 .028	.156 .086 .027	
4.0	.181 .094 .028	.176 .092 .027	.167 .089 .027	.159 .086 .026	.152 .083 .025	
5.0	.172 .088 .025	.168 .086 .025	.161 .084 .025	.154 .081 .024	.147 .079 .024	
6.0	.165 .082 .024	.161 .081 .023	.154 .079 .023	.148 .077 .023	.142 .075 .022	
7.0	.157 .078 .022	.154 .077 .022	.148 .075 .022	.142 .073 .021	.137 .071 .021	
8.0	.150 .073 .021	.147 .072 .020	.142 .071 .020	.136 .069 .020	.132 .068 .020	
9.0	.143 .069 .019	.141 .069 .019	.136 .067 .019	.131 .066 .019	.127 .064 .019	
10.0	.137 .066 .018	.135 .065 .018	.130 .064 .018	.126 .063 .018	.122 .061 .018	

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Ceiling Cavity Exitance Coefficients (CCEC)					
0.0	.198 .198 .198	.169 .169 .169	.116 .116 .116	.066 .066 .066	.021 .021 .021	
1.0	.180 .165 .151	.154 .141 .130	.106 .097 .090	.061 .056 .052	.019 .018 .017	
2.0	.167 .140 .117	.143 .121 .101	.098 .083 .071	.057 .049 .041	.018 .016 .013	
3.0	.157 .121 .093	.134 .105 .081	.092 .073 .057	.053 .042 .034	.017 .014 .011	
4.0	.148 .107 .076	.127 .093 .066	.087 .065 .047	.050 .038 .028	.016 .012 .009	
5.0	.140 .096 .064	.120 .083 .055	.083 .058 .039	.048 .034 .023	.015 .011 .008	
6.0	.133 .087 .054	.115 .075 .047	.079 .053 .033	.046 .031 .020	.015 .010 .007	
7.0	.127 .080 .047	.110 .069 .041	.076 .049 .029	.044 .029 .017	.014 .009 .006	
8.0	.122 .074 .041	.105 .064 .036	.073 .045 .025	.042 .027 .015	.014 .009 .005	
9.0	.117 .069 .037	.101 .060 .032	.070 .042 .023	.041 .025 .014	.013 .008 .004	
10.0	.112 .065 .033	.097 .056 .029	.067 .040 .021	.039 .023 .012	.013 .008 .004	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm										
NAME: H17-RAL-100W-4K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAB LIGHTING INC					SUR.:0.23			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	25.0	26.1	25.2	26.3	26.5	24.9	26.0	25.1	26.2	26.4
3H	24.8	25.8	25.1	26.0	26.3	24.7	25.7	25.0	25.9	26.2
4H	24.7	25.7	25.0	25.9	26.1	24.6	25.5	24.9	25.8	26.0
6H	24.6	25.5	24.9	25.8	26.0	24.5	25.4	24.8	25.6	25.9
8H	24.5	25.4	24.9	25.7	26.0	24.4	25.3	24.8	25.6	25.9
12H	24.5	25.3	24.8	25.6	25.9	24.4	25.2	24.7	25.5	25.8
4H 2H	24.7	25.7	25.0	25.9	26.2	24.6	25.6	24.9	25.8	26.0
3H	24.5	25.3	24.9	25.6	25.9	24.4	25.2	24.8	25.5	25.8
4H	24.4	25.2	24.8	25.5	25.8	24.3	25.1	24.7	25.4	25.7
6H	24.3	25.0	24.7	25.3	25.7	24.2	24.9	24.6	25.2	25.6
8H	24.3	24.9	24.7	25.2	25.6	24.2	24.8	24.6	25.1	25.5
12H	24.2	24.8	24.7	25.2	25.6	24.1	24.7	24.6	25.1	25.5
8H 4H	24.3	24.9	24.7	25.2	25.6	24.2	24.8	24.6	25.1	25.5
6H	24.2	24.7	24.6	25.1	25.5	24.1	24.6	24.5	25.0	25.4
8H	24.1	24.6	24.6	25.0	25.5	24.0	24.5	24.5	24.9	25.4
12H	24.1	24.4	24.6	24.9	25.4	24.0	24.3	24.5	24.8	25.3
12H 4H	24.2	24.8	24.7	25.2	25.6	24.1	24.7	24.6	25.1	25.5
6H	24.1	24.6	24.6	25.0	25.5	24.0	24.5	24.5	24.9	25.4
8H	24.1	24.4	24.6	24.9	25.4	24.0	24.3	24.5	24.8	25.3
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / -12.6					+ 2.5 / -13.1				
1.5H	+ 3.4 / -10.5					+ 3.5 / -10.6				
2.0H	+ 6.3 / -14.0					+ 6.3 / -14.0				

CIE Pub.117, 15841 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 9.6$)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

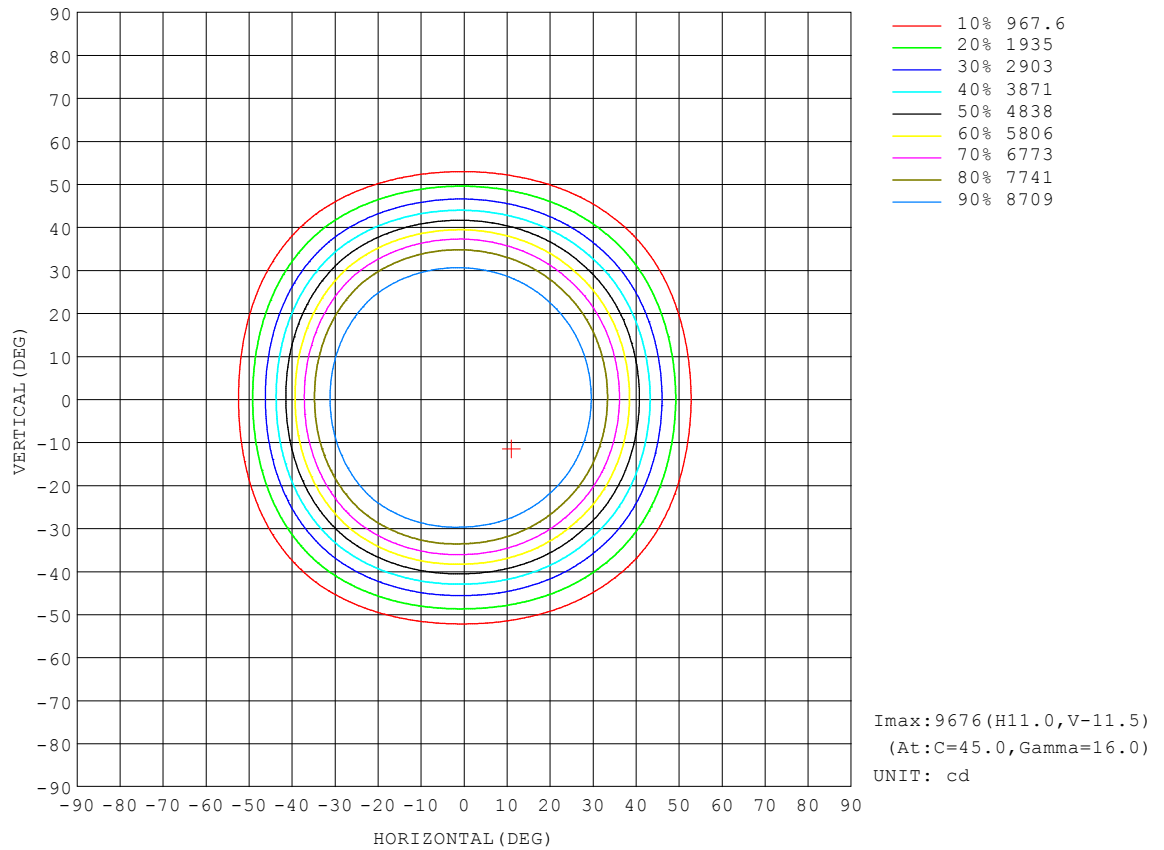
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	78	70	65	77	70	65	76	69	65	60
0.80	87	79	75	86	79	75	85	78	74	70
1.00	93	86	82	92	86	82	91	86	81	76
1.25	99	92	88	97	92	88	95	90	87	82
1.50	102	96	92	101	95	92	98	94	90	85
2.00	106	101	97	104	100	96	101	98	95	89
2.50	108	103	100	106	102	99	103	99	97	90
3.00	110	106	102	108	104	101	104	101	99	92
4.00	112	109	106	110	107	104	106	104	102	94
5.00	113	110	108	111	109	106	107	105	103	95
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: 25.1DEG
 Operators: Marvin Ma
 Test Date: 2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity: 56%
 Test Distance: 6.500m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

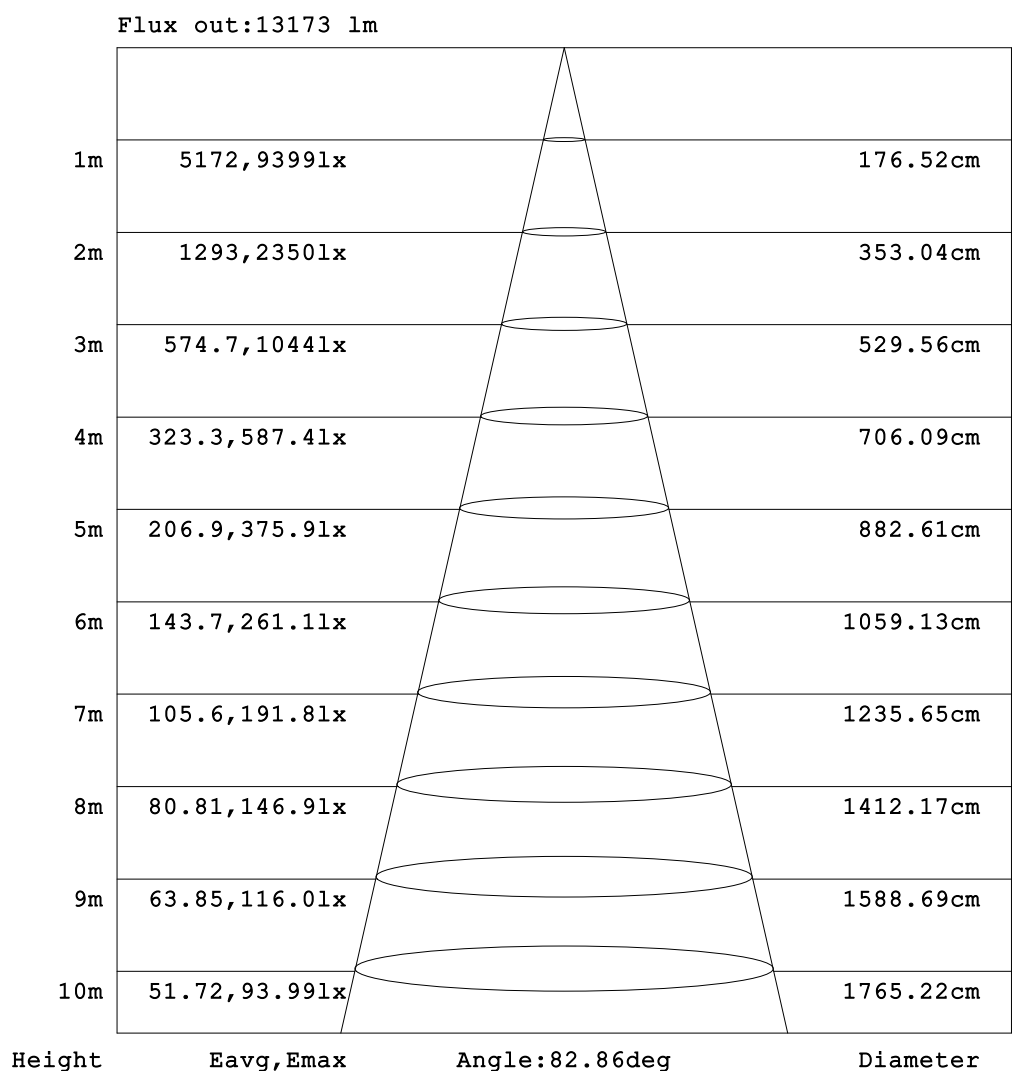


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.1DEG
Operators:Marvin Ma
Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity:56%
Test Distance:6.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

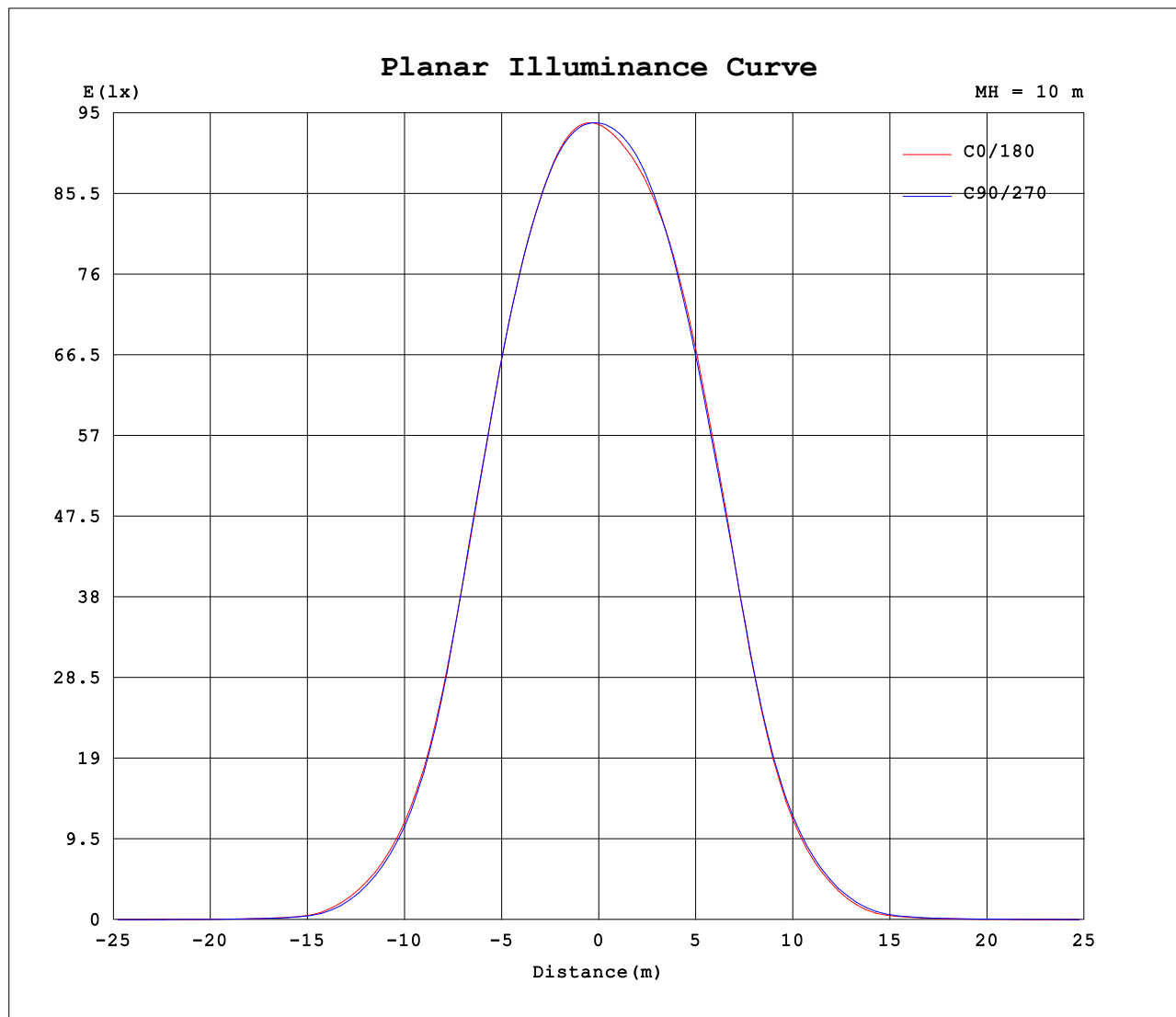


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.1DEG
Operators: Marvin Ma
Test Date: 2022-09-01

☐ Range: 0 - 180DEG
☐ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.364
Humidity: 56%
Test Distance: 6.500m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.6V I:0.8076A P:97.13W PF:0.9974 Freq:59.98Hz Lamp Flux:15840.6x1 lm		
NAME: H17-RAL-100W-4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:0.23	Shielding Angle:

Table--1

UNIT: cd

C (DEG) □ (DEG)	0	45	90	135	180	225	270	315										
0	9363	9374	9382	9391	9363	9374	9382	9391										
5	9470	9481	9453	9391	9323	9332	9401	9474										
10	9591	9603	9570	9479	9385	9390	9490	9589										
15	9663	9675	9654	9590	9513	9516	9581	9655										
20	9638	9646	9632	9644	9616	9609	9597	9628										
25	9388	9384	9389	9501	9507	9505	9411	9374										
30	8622	8541	8645	8910	8928	8975	8813	8646										
35	7223	7015	7214	7628	7654	7892	7671	7324										
40	5174	4883	5060	5447	5477	5781	5541	5156										
45	3247	3030	3104	3327	3351	3571	3462	3177										
50	1717	1536	1565	1699	1673	1829	1796	1628										
55	463	372	394	454	414	512	518	452										
60	137	114	117	128	123	153	165	147										
65	59.8	51.5	53.2	56.5	56.4	67.8	77.0	71.1										
70	35.2	31.1	31.9	33.9	33.6	40.8	46.7	42.7										
75	20.7	18.8	19.0	20.0	19.4	23.5	26.9	24.7										
80	11.8	11.1	10.9	11.2	10.4	12.5	14.1	13.2										
85	6.04	5.55	5.24	5.35	4.41	5.19	5.80	5.72										
90	2.32	2.44	2.39	2.36	2.14	1.95	1.92	2.06										
95	3.48	3.64	3.63	3.46	3.19	2.90	2.91	3.11										
100	5.33	5.52	5.53	5.14	4.83	4.46	4.55	4.80										
105	7.96	8.22	8.22	7.64	7.31	6.72	6.96	7.24										
110	11.5	11.7	11.8	10.9	10.7	9.77	10.3	10.5										
115	15.9	15.9	16.2	15.0	14.8	13.6	14.5	14.6										
120	20.9	20.7	21.2	19.6	19.6	18.1	19.4	19.3										
125	26.4	25.7	26.8	24.6	25.2	23.2	24.9	24.4										
130	31.9	30.8	32.3	29.6	30.9	28.3	30.6	29.6										
135	37.4	35.7	37.8	34.7	36.6	33.4	36.5	34.7										
140	41.9	40.8	42.2	39.7	41.4	38.5	41.8	39.8										
145	45.7	46.3	46.3	45.5	45.9	44.4	46.1	45.9										
150	49.8	50.9	50.5	50.2	50.4	49.8	50.5	51.2										
155	54.4	55.4	55.3	54.7	55.1	54.9	55.3	56.3										
160	59.8	60.6	60.9	59.8	60.5	60.0	60.7	61.6										
165	65.8	66.0	66.7	65.2	66.3	65.4	66.4	67.1										
170	71.2	70.9	71.8	70.3	71.4	70.5	71.7	71.8										
175	75.3	74.5	75.8	74.4	75.2	74.4	75.6	75.5										
180	78.1	76.9	78.1	77.3	78.0	77.0	78.0	77.4										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.1DEG
 Operators:Marvin Ma
 Test Date:2022-09-01

□ Range: 0 - 180DEG
 □ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.364
 Humidity:56%
 Test Distance:6.500m [K=1.0000]
 Remarks: