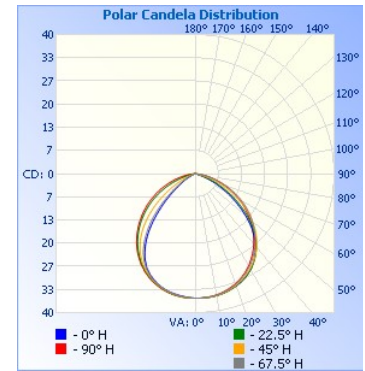


# KICHLER®

KICHLER PHOTOMETRIC LAB

**Filename:** CTR180535-03  
**Manufacturer:** Kichler Lighting LLC  
**Luminaire:** 16102-27 Hardscape  
**Luminaire Cat:** CTR180535-03  
**Lamp:** Integrated LED AC  
**Lamp Output:** Total luminaire Lumens: 85.2  
**Max Candela:** 35.9 at Horizontal: 90°, Vertical: 1°  
**Input Wattage:** 1.8  
**Luminous Opening:** Rectangle (L: 10.92", W: 0.48")  
**Test:** LM-79 Distribution  
**Test Lab:** Kichler Lighting  
**Photometry:** Type C  
**Nema Type:** 7 X 6

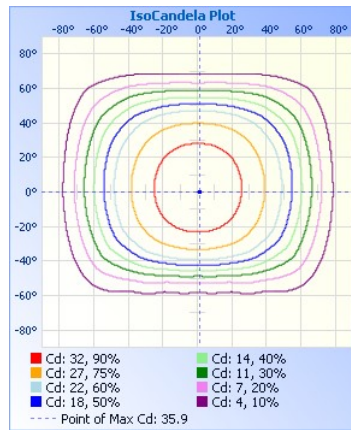
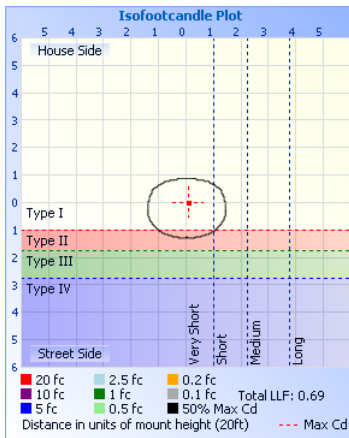


Roadway Summary		
Cutoff Classification:	FULL CUTOFF	
Distribution:	TYPE II, VERY SHORT	
Max Cd, 90 Deg Vert:	0	
Max Cd, 80 to <90 Deg:	2.8	
Lumens % Lamp		
Downward Street Side:	46.8	54.9%
Downward House Side:	38.4	45.1%
Downward Total:	85.3	100%
Upward Street Side:	0	0%
Upward House Side:	0	0%
Upward Total:	0	0%
Total Lumens:	85.3	100%

Flood Summary				
	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.2%	83.7	156.7	126.6
Beam (50%):	76.5%	65.2	108.9	93.2
Total:	100%	85.2		

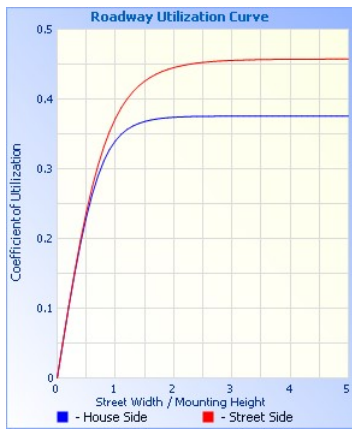
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	28.1	33%
0-40	45.8	53.7%
0-60	75.3	88.4%
60-90	9.9	11.6%
70-100	2.6	3.1%
90-120	0	0%
0-90	85.2	100%
90-180	0	0%
0-180	85.2	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	3.4	4.0%	90-100	0	0%
10-20	9.8	11.5%	100-110	0	0%
20-30	14.9	17.5%	110-120	0	0%
30-40	17.6	20.7%	120-130	0	0%
40-50	16.8	19.7%	130-140	0	0%
50-60	12.7	14.9%	140-150	0	0%
60-70	7.3	8.5%	150-160	0	0%
70-80	2.4	2.9%	160-170	0	0%
80-90	0.2	0.2%	170-180	0	0%



Distance	Illuminance at a Distance	
	Center Beam fc	Beam Width
17.0ft	0.12 fc	36.0 ft 47.6 ft
34.0ft	0.03 fc	71.9 ft 95.1 ft
51.0ft	0.01 fc	107.9 ft 142.7 ft
68.0ft	0.01 fc	143.8 ft 190.2 ft
85.0ft	0.00 fc	179.8 ft 237.8 ft
102.0ft	0.00 fc	215.8 ft 285.4 ft

■ Vert. Spread: 93.2°  
 ■ Horiz. Spread: 108.9°



Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50				30				10				0
RW %:	70	50	30	0	70	50	30	0	50	30	20	10	50	30	20	10	50	30	20	10	0
RCR: 0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.00	1.11	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.02	1.00	1.00
1	1.11	1.07	1.03	1.00	1.08	1.04	1.01	.88	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87	.85	.87	.87
2	1.02	.95	.89	.84	.99	.93	.87	.76	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75	.73	.75	.75
3	.94	.84	.77	.71	.91	.83	.76	.66	.80	.74	.69	.77	.72	.68	.75	.70	.67	.65	.63	.65	.65
4	.86	.75	.67	.61	.84	.74	.66	.58	.71	.65	.60	.69	.64	.59	.67	.62	.58	.56	.54	.56	.56
5	.80	.68	.59	.53	.78	.67	.59	.51	.65	.58	.52	.63	.57	.52	.61	.56	.51	.49	.47	.49	.49
6	.74	.61	.53	.47	.72	.60	.52	.45	.59	.52	.46	.57	.51	.46	.55	.50	.46	.44	.42	.44	.44
7	.68	.56	.47	.42	.67	.55	.47	.41	.53	.46	.41	.52	.46	.41	.51	.45	.41	.39	.37	.39	.39
8	.64	.51	.43	.37	.62	.50	.43	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.35	.33	.35	.35
9	.60	.47	.39	.34	.58	.46	.39	.33	.45	.38	.34	.44	.38	.33	.43	.37	.33	.31	.29	.31	.31
10	.56	.43	.36	.31	.55	.43	.36	.30	.42	.35	.31	.41	.35	.30	.40	.34	.30	.28	.26	.28	.28





Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180
0	36	36	36	36	36	36	36	36	36
1	36	36	36	36	36	36	36	36	36
2	36	36	36	36	36	36	36	36	36
3	36	36	36	36	36	36	36	36	36
4	36	36	36	36	36	36	36	36	36
5	36	36	36	36	36	36	36	36	36
6	36	36	36	36	36	36	36	36	35
7	36	36	36	36	36	36	35	35	35
8	36	36	36	36	36	35	35	35	35
9	36	36	36	36	35	35	35	35	35
10	36	36	36	35	35	35	35	35	35
11	36	36	35	35	35	35	35	35	35
12	35	35	35	35	35	35	35	35	35
13	35	35	35	35	35	35	35	35	35
14	35	35	35	35	35	35	35	35	34
15	35	35	35	35	35	35	34	34	34
16	35	35	35	35	35	34	34	34	34
17	35	35	35	35	34	34	34	34	34
18	35	35	35	34	34	34	34	34	34
19	35	35	34	34	34	34	34	33	33
20	34	34	34	34	34	34	33	33	33
21	34	34	34	34	33	33	33	33	33
22	34	34	34	33	33	33	33	33	33
23	34	34	34	33	33	33	33	32	32
24	34	34	33	33	33	32	32	32	32
25	33	33	33	33	32	32	32	32	31
26	33	33	33	32	32	32	32	31	31
27	33	33	33	32	32	32	31	31	31
28	32	32	32	32	31	31	31	30	30
29	32	32	32	31	31	31	30	30	29
30	32	32	32	31	31	30	30	29	29
31	31	32	31	31	30	30	30	29	28
32	31	31	31	30	30	30	29	28	27
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34	30	30	30	29	29	29	28	27	26
35	30	30	30	29	29	28	28	26	25
36	29	29	29	29	28	28	27	25	24
37	29	29	29	28	28	27	26	24	23
38	28	28	28	28	27	27	26	23	22
39	28	28	28	27	27	26	25	22	21
40	27	27	27	27	26	26	24	21	20
41	26	27	27	26	26	25	24	20	19
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43	25	25	26	25	25	24	22	18	17
44	24	25	25	25	24	24	21	17	15
45	24	24	25	24	24	23	21	16	14
46	23	23	24	24	23	22	20	15	13
47	22	23	24	23	22	22	19	14	12
48	21	22	23	23	22	21	18	13	11
49	20	21	22	22	21	21	17	12	10
50	19	20	22	21	21	20	16	11	9
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53	16	18	19	20	19	18	13	8	6
54	15	17	19	19	18	17	12	7	6
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56	14	15	17	18	17	16	11	6	4
57	13	14	16	17	16	15	10	5	4
58	12	13	16	17	16	14	9	4	3
59	11	12	15	16	15	14	8	4	3
60	10	11	14	15	14	13	7	3	3
61	9	11	13	15	14	12	6	3	2
62	8	10	12	14	13	12	6	2	2
63	7	9	12	13	13	11	5	2	2
64	7	8	11	12	12	10	4	2	1
65	6	7	10	12	11	9	4	1	1
66	5	7	9	11	11	9	3	1	1
67	5	6	9	10	10	8	3	1	1
68	4	5	8	10	9	7	2	1	0
69	3	4	7	9	9	7	2	0	0
70	3	4	6	8	8	6	1	0	0
71	2	3	6	8	8	5	1	0	0
72	2	3	5	7	7	5	1	0	0
73	1	2	4	6	6	4	0	0	0
74	1	2	4	6	6	3	0	0	0
75	1	1	3	5	5	3	0	0	0
76	0	1	2	4	5	2	0	0	0
77	0	0	2	4	4	2	0	0	0
78	0	0	1	3	4	1	0	0	0
79	0	0	1	3	3	1	0	0	0

80	0	0	0	2	3	0	0	0	0
81	0	0	0	2	2	0	0	0	0
82	0	0	0	1	2	0	0	0	0
83	0	0	0	1	1	0	0	0	0
84	0	0	0	0	1	0	0	0	0
85	0	0	0	0	1	0	0	0	0
86	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0
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100	0	0	0	0	0	0	0	0	0
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104	0	0	0	0	0	0	0	0	0
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108	0	0	0	0	0	0	0	0	0
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122	0	0	0	0	0	0	0	0	0
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124	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0
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167	0	0	0	0	0	0	0	0	0
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173	0	0	0	0	0	0	0	0	0
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177	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0





**Luminaire Report Summary**

IESNA:LM-63-2002  
[TEST] LM-79 Distribution  
[TESTLAB] Kichler Lighting  
[ISSUEDATE] 3/5/2019  
[MANUFAC] Kichler Lighting LLC  
[LUMCAT] CTR180535-03  
[LUMINAIRE] 16102-27 Hardscape  
[LAMP] Integrated LED AC

FILE: CREATED USING ABSOLUTE PHOTOMETRY  
FILE: CANDELA MULTIPLIER: 1  
FILE: VERTICAL ANGLES: 181, HORIZONTAL ANGLES: 9  
FILE: COORDINATE SYSTEM: TYPE C  
FILE: UNIT OF MEASURE: STANDARD  
FILE: BALLAST FACTOR: 1

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Reported data calculated from manufacturer's data file, based on IES recommended methods.