

Parabolic Directional 400 Watt Maximum: 285,000 Candlepower at 17° Available

Features

Lamp

- Designed for:
400 watt clear ED/BT-28 metal halide.
- See Option -43 for lower wattage.
- Option -23 for Mercury, Option -24 for HPS.

Socket

- Mogul base. Glazed porcelain.
- Nickel-plated brass screw shell. Silicone leads.

Reflectors

- Upper: Parabolic specular Alzak® aluminum. Assembly swivels 358° and tilts up to 30°.
- Lower: Low brightness parabolic specular Alzak aluminum, self flanged.
- Thirteen optional specular Alzak or SoTex aluminum lower reflector finishes available. See Options.

Lens

- UV absorbing tempered Industrix mounted to upper reflector. (Medium distribution)
- UV absorbing tempered prismatic C#73 glass instead (Option -15). (Wider distribution)
- UV absorbing clear tempered glass instead (Option -28). (Narrower distribution)

Ballast Assembly

- WhisperPack™ fully encapsulated 180°C rated HPPF ballast. 3 year warranty.

- Premium Class H; CWA 10:9 regulation.
- Capacitor supplied.
- 120 volt standard or see optional voltages.
- Cool, quiet, long-life. Silicone leads.
- Visible and easily serviced in all ceilings including dry wall.

Fuse

- Fused primary. Renewable. Aids servicing.

Housing

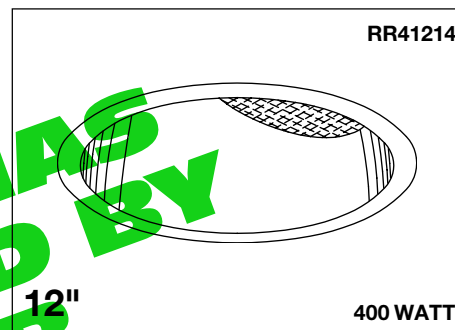
- Acrylic enameled aluminum.
- Cool: Dissipates heat across entire surface area. Ventilated.
- Rustproof: Exceeds 1000 hour ASTM 5% salt spray test.
- Entire luminaire serviced through removable reflector. For top access see Option -TA.
- Built-in plaster frame.

Outlet Box

- Prewired 14 GA (NEC) galvanized steel, UL listed, with removable insulated cover.
- 1/2" and 3/4" knockouts.

Installation

- 27" galvanized hanger bars supplied (2).
- Fully adjustable universal mounting brackets supplied (2).
- Recesses indoor or outdoor in covered locations.



180 Footcandles 20' from the Source

737 Footcandles with Option -28
69 Footcandles with Option -15

UL, C-UL (Canada) Listings

- Wet, damp or dry locations, covered ceilings.
- Through-branch circuit conductors (6 #12).

Three Year Limited Warranty

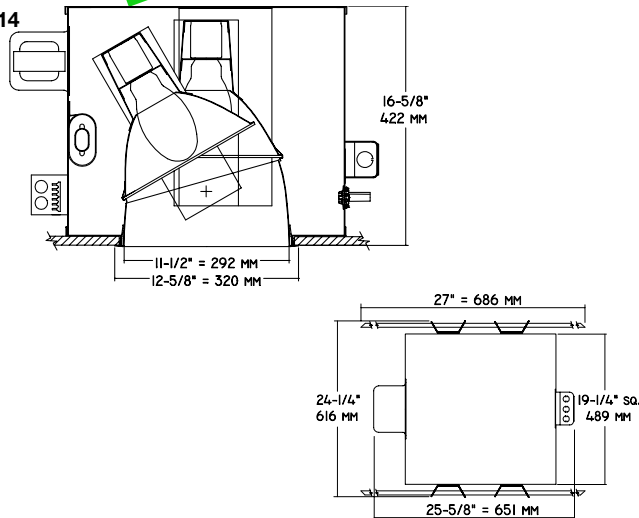
- Complete standard fixture.

Thermal Protection

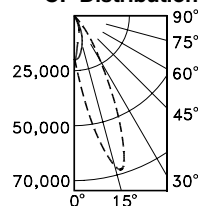
- Per current NEC.

Performance at a Glance

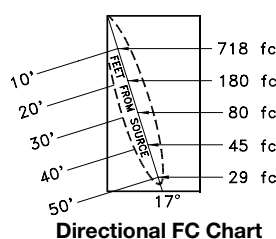
RR41214



CP Distribution

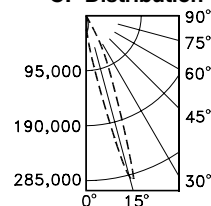


RR41214

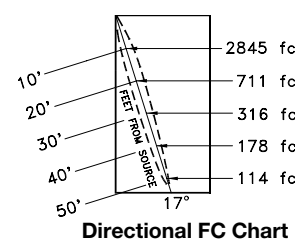


Directional FC Chart

CP Distribution



RR41214-28



Directional FC Chart

THE KIRLIN COMPANY

3401 EAST JEFFERSON AVENUE • DETROIT, MICHIGAN 48207-4232
(313) 259-6400 • Fax: (313) 259-9409 OR (313) 259-3121 • www.light-link.com/kirlin

MAXIMUM WATTAGE

CATALOG NUMBER

**PRECISION LIGHTING
METAL HALIDE**

400 ED/BT-28

RR41214

THE KIRLIN COMPANY RESERVES THE RIGHT TO CHANGE, WITHOUT NOTICE, DETAILS OR SPECIFICATIONS IN PRODUCT DESIGN.

Alzak® is a registered trademark of ALCOA.

RR41214

RECESSED ROUND: 400 WATT ED/BT-28 MOGUL BASE METAL HALIDE

Detailed Photometry - Installed Fixture

FROM I.T.L. (BOULDER, CO)

RR41214: TEST NUMBER 41290

RR41214-15: TEST NUMBER 41291

RR41214-28: TEST NUMBER 41292

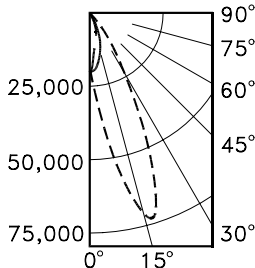
RR41214

*LER = 41.2

•AEC = \$5.82

--- 0°
--- 90°
--- 180°

EFFICIENCY = 55.2%



CANDLEPOWER DISTRIBUTION					
	0.0	45.0	90.0	135.0	180.0
0	17381	17381	17381	17381	17381
5	28702	24115	16508	11785	10229
15	69252	32560	11730	7198	6643
25	45264	19993	6352	4869	4787
35	13978	6670	3322	3185	3294
45	3203	1620	1101	1165	1183
55	874	582	473	501	528
65	218	218	228	255	273
75	18	36	36	55	36
85	0	18	18	18	0
90	0	0	0	0	0

COEFFICIENTS OF UTILIZATION										
RF	20									
	80					50				
RC	70	50	30	10	0	50	30	10	0	10
1	63	61	60	58	58	58	57	56	56	56
2	59	57	54	52	54	52	51	48	47	47
3	53	53	50	48	48	47	45	43	43	43
4	53	49	46	44	44	44	42	40	40	40
5	51	46	43	40	40	40	39	37	37	37
6	48	43	40	37	37	37	36	34	34	34
7	46	41	37	35	35	35	34	32	32	32
8	44	38	35	33	33	33	32	30	30	30
9	41	36	33	31	31	31	30	28	28	28
10	40	34	31	29	29	29	28	26	26	26

* LER = Luminaire Efficacy Rating
LER = Luminaire Efficacy x Total Lamp Lumens x Ballast Input Watts

* AEC = Annual Energy Cost per 1000 lumens (based on 3000 hours use @ \$0.08 KWH).

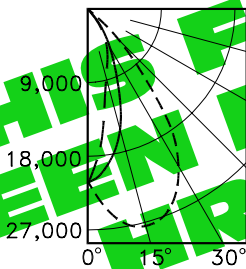
RR41214-15

*LER = 41.1

•AEC = \$5.84

--- 0°
--- 90°
--- 180°

EFFICIENCY = 55.0%



CANDLEPOWER DISTRIBUTION					
	0.0	45.0	90.0	135.0	180.0
0	21806	21806	21806	21806	21806
5	24770	23378	20539	18027	17072
15	27501	24634	14324	9610	8572
25	25052	20594	8445	5870	5897
35	17854	9082	4104	3394	3312
45	5988	2521	1547	1474	1492
55	1938	1001	810	846	928
65	382	346	410	482	528
75	18	36	64	73	55
85	0	18	18	18	0
90	0	0	0	0	0

COEFFICIENTS OF UTILIZATION										
RF	20									
	80					50				
RC	70	50	30	10	0	50	30	10	0	10
1	62	60	59	58	57	56	55	55	55	55
2	59	56	53	51	53	51	50	48	47	47
3	55	51	48	46	49	47	45	43	43	43
4	52	48	44	42	46	43	41	39	39	39
5	49	44	41	38	43	40	38	36	36	36
6	47	41	38	35	40	37	35	33	33	33
7	44	39	35	33	37	34	32	30	30	30
8	42	36	33	30	35	32	30	28	28	28
9	40	34	31	28	33	30	28	26	26	26
10	38	32	29	26	31	28	26	24	24	24

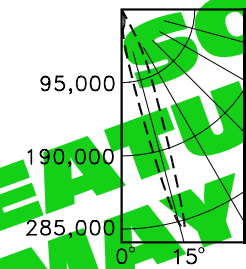
RR41214-28

*LER = 44.5

•AEC = \$5.39

--- 0°
--- 90°
--- 180°

EFFICIENCY = 59.6%



CANDLEPOWER DISTRIBUTION					
	0.0	45.0	90.0	135.0	180.0
0	14960	14960	14960	14960	14960
5	32400	25460	14830	8190	6370
15	260810	31940	6920	5370	5460
25	63880	12920	3260	4640	5280
35	3550	3550	5920	4910	4550
45	1270	730	550	730	730
55	180	180	0	180	180
65	0	0	0	0	0
75	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0

COEFFICIENTS OF UTILIZATION										
RF	20									
	80					50				
RC	70	50	30	10	0	50	30	10	0	10
1	68	66	65	64	63	62	61	61	61	61
2	65	62	60	58	59	58	56	56	56	56
3	62	59	56	54	56	54	52	52	52	52
4	59	55	52	50	53	51	49	49	49	49
5	57	52	49	46	50	48	46	46	46	46
6	54	49	46	44	48	45	43	43	43	43
7	52	47	43	41	45	43	41	41	41	41
8	49	44	41	39	43	40	38	38	38	38
9	47	42	39	37	41	38	36	36	36	36
10	45	40	37	35	39	36	34	34	34	34

Estimated Multipliers

-16 Champagne Gold Alzak®: CP x .98
-30 White: CP x .98
-63 Dune Alzak: CP x .97

-69 Wheat Alzak: CP x .97
-70 SoftTex Clear: CP x .98
-71 SoftTex Dune: CP x .95

-72 Black Alzak: CP x .80
-90 SoftTex Champagne Gold: CP x .96
-91 SoftTex Wheat: CP x .95

-92 Umber Alzak: CP x .90
-93 Pewter Alzak: CP x .95
-OG Black OptiGroove: CP x .82

Options

- 15 UV absorbing tempered prismatic C#73 flat glass instead. Wider distribution.
- 16 Champagne Gold Alzak lower cone. (CP x .98)
- 23 Mercury ballast instead. 250 watt standard or see Option -43. Specify voltage.
- 24 HPS ballast instead. 250 watt std. or see Option -43. Specify voltage. (NOT FOR G.E. LAMPS)
- 28 Clear tempered glass instead. Narrower beam.
- 30 White self-flanged lower cone. (CP x .98)
- 31 White flange (only) on lower Alzak reflector.
- 32 Trim extender. Broadens trim flange O.D. by 1".
- 43 Lower wattage - specify voltage and wattage for: Metal Halide: 250, 175MO; Mercury: 175MO; HPS: 150MO.
- 45 Gasket above reflector flange.
- 49 Extra circuit DCB socket (150W max.) Must not

- be energized simultaneously with main source.
- 58 277 volt 60 Hz. ballast instead.
- 63 Dune specular Alzak lower cone. (CP x .97)
- 65 Standby relay and DCB socket. (150W max.) With fixture energized, provides immediate light during HID outage. Also see Option -66.
- 66 Time delay standby relay and DCB socket. (150 watt max.) When energized, provides light until HID reaches 70% output.
- 69 Wheat specular Alzak lower cone. (CP x .97)
- 70 SoftTex Clear lower cone. (CP x .98)
- 71 SoftTex Dune lower cone. (CP x .95)
- 72 Black specular Alzak lower cone. (CP x .80)
- 90 SoftTex Champagne Gold lower cone. (CP x .96)
- 91 SoftTex Wheat lower cone. (CP x .95)
- 92 Umber specular Alzak lower cone. (CP x .90)
- 93 Pewter specular Alzak lower cone. (CP x .95)
- 94 Specular Alzak or SoftTex custom color/finish

- lower cone. Consult factory.
- 97 Other voltage ballast. Consult factory.
- 99 Special modification. Consult factory.
- HL High to Low light output - provides 100% to 50% bi-level lighting for energy savings and adjustable light levels. 120 or 277V only for 400, 250, 175 MH or 400, 250, 150 HPS only. Requires separate control circuit.
- LP With clear lamp. Specify source, wattage and color temperature (3700°K standard for MH.) Consult factory for other color temperatures.
- LS With tungsten halogen standby lamp. (150W max.) Use only with Options -49, -65 or -66.
- OG OptiGroove black seamless tapered lower cone. White trim, self-flanged. (CP x .82)
- TA Top access modification for servicing from above.

Note: All optional lower cones are self-flanged.

SUBMITTAL DATA

APPROVAL STAMP

JOB NAME _____

TYPE _____

WATTAGE _____ VOLTAGE _____

CATALOG NUMBER _____

Alzak® is a registered trademark of ALCOA.

Directional Fixtures Note: The zonal cavity calculation technique is accurate when luminaires with symmetric candela distributions are employed and when the luminaires are located symmetrically throughout the room. These units have special characteristics and therefore the coefficients should be used with caution.

LIMITED WARRANTY: CATALOGED KIRLIN FIXTURES ARE WARRANTED FREE OF DEFECTS IN WORKMANSHIP OR MATERIAL FOR THREE YEARS FROM DATE OF PURCHASE. INSTALLATION TO N.E.C. IS NOT NORMAL USE. Manufacturer at the option will replace or repair such fixture or refund the purchase price on presentation of a proof of purchase and defective fixture at the office of manufacturer within three years of original shipment. Liability of manufacturer is limited to the foregoing and manufacturer shall not be liable for any other damages, direct or indirect, sustained by purchaser or any person. This warranty is supplied from the manufacturer and will void if the fixture is modified or if the fixture is used for any other purpose than that for which it was designed. This warranty is void if the fixture is used for any other purpose than that for which it was designed.