

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931228

Luminaire Tested: DFN2DS-TR2F0-020DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931228
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR2F0-020DS830-RLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

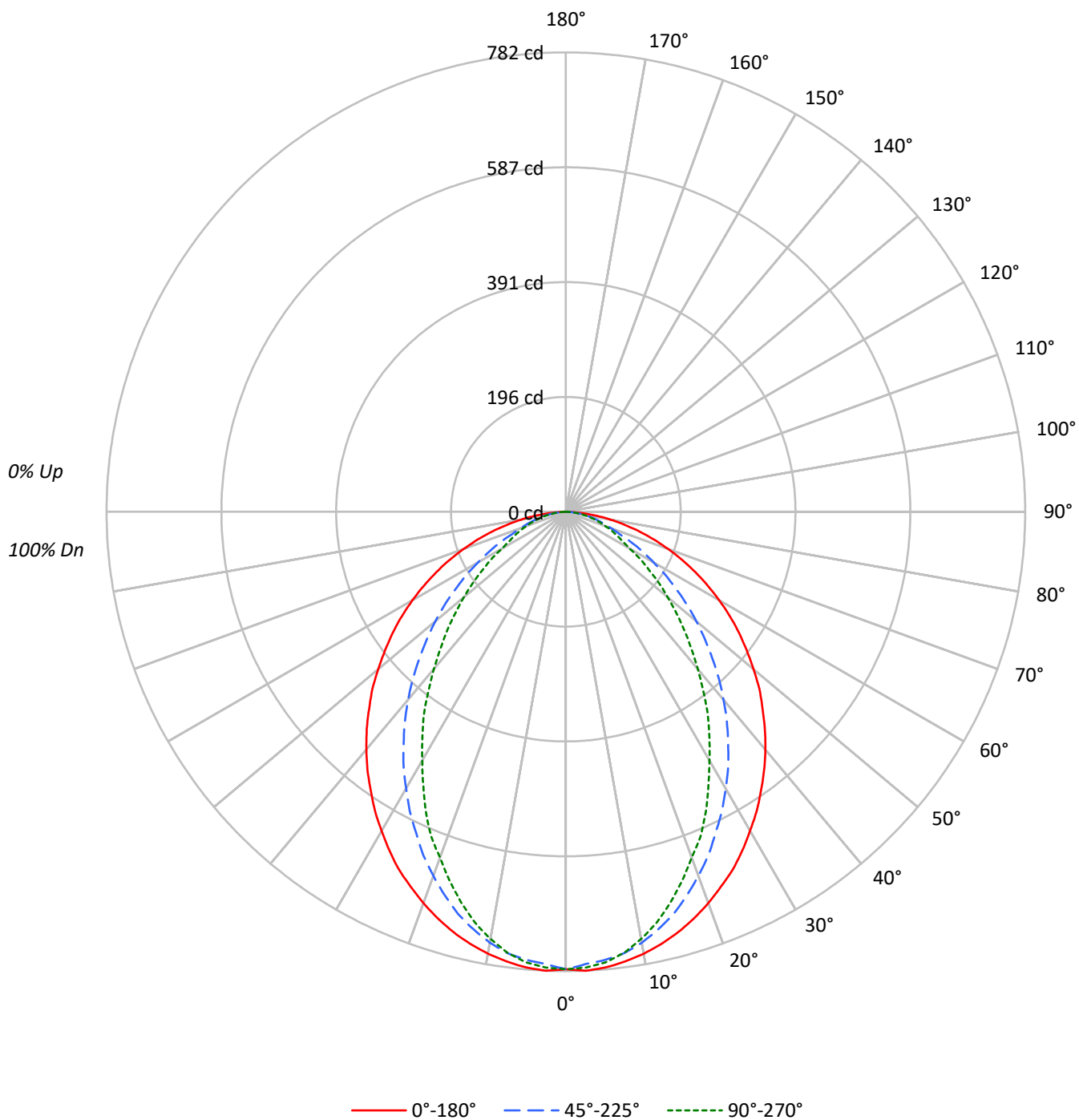
Lumens per Lamp: N/A
Luminaire Lumens: 1601.4 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1737	1737	1737
5°	1743	1715	1724
10°	1730	1687	1673
15°	1710	1637	1590
20°	1683	1566	1487
25°	1655	1484	1387
30°	1615	1401	1259
35°	1577	1311	1147
40°	1539	1217	1018
45°	1494	1112	900
50°	1448	1005	785
55°	1400	890	674
60°	1345	770	560
65°	1283	647	510
70°	1208	533	469
75°	1117	485	438
80°	986	434	398
85°	773	343	343

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1494 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.0	4.6
10°-20°	200.3	12.5
20°-30°	281.3	17.6
30°-40°	306.6	19.1
40°-50°	281.8	17.6
50°-60°	221.3	13.8
60°-70°	144.1	9.0
70°-80°	74.1	4.6
80°-90°	18.9	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	554.6	34.6
0°-40°	861.2	53.8
0°-60°	1364.3	85.2
0°-90°	1601.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1601.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	779	779	779	779	779	
5°	779	775	766	772	770	74
15°	741	733	709	696	688	209
25°	672	650	603	574	564	309
35°	579	543	481	437	421	363
45°	474	426	352	302	285	366
55°	360	305	229	187	173	322
65°	243	186	123	99	97	241
75°	130	80	56	51	51	137
85°	30	15	13	13	13	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	778.7	778.7	778.7	778.7	778.7
2.5°	782.1	778.7	770.8	778.0	776.6
5°	778.7	775.2	765.9	772.3	770.2
7.5°	772.3	768.1	758.2	761.0	757.5
10°	763.9	758.9	744.8	742.7	738.5
12.5°	753.3	746.9	727.9	723.7	715.9
15°	740.6	732.8	708.9	695.5	688.5
17.5°	725.8	714.5	684.9	669.4	658.2
20°	708.9	694.7	659.6	642.0	626.4
22.5°	690.6	674.4	633.5	609.6	599.0
25°	672.3	649.7	603.2	574.3	563.7
27.5°	650.5	626.4	575.0	541.8	525.6
30°	627.2	600.3	544.0	508.1	489.0
32.5°	604.6	572.2	514.4	472.1	454.5
35°	579.2	543.3	481.4	436.9	421.4
37.5°	554.6	515.7	450.3	401.7	384.1
40°	528.5	486.3	417.9	367.9	349.5
42.5°	501.7	456.7	385.5	333.3	315.8
45°	473.5	426.3	352.4	302.3	285.3
47.5°	446.8	396.8	320.7	270.5	255.1
50°	417.2	367.2	289.7	241.0	226.3
52.5°	388.2	335.4	260.0	213.6	200.2
55°	360.0	305.1	229.0	186.8	173.3
57.5°	331.2	274.8	201.6	162.1	150.8
60°	301.6	245.2	172.7	136.8	125.5
62.5°	272.7	216.4	148.0	114.2	108.5
65°	243.1	186.0	122.6	98.7	96.6
67.5°	215.0	157.8	98.7	86.7	84.6
70°	185.3	130.4	81.7	74.7	71.9
72.5°	157.1	104.9	68.3	62.7	61.3
75°	129.6	80.3	56.3	51.4	50.8
77.5°	102.2	57.1	44.4	41.5	40.1
80°	76.8	40.9	33.8	31.0	31.0
82.5°	53.5	27.5	23.3	21.9	21.9
85°	30.2	15.4	13.4	13.4	13.4
87.5°	11.3	5.7	5.7	4.9	4.9
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	13.15	14.67	13.52	14.99	15.30	9.11	10.64	9.48	10.95	11.26
	3H	14.92	16.28	15.30	16.61	16.97	10.38	11.75	10.76	12.07	12.43
	4H	15.58	16.86	15.98	17.21	17.59	10.88	12.16	11.28	12.51	12.89
	6H	16.07	17.26	16.48	17.62	18.01	11.26	12.44	11.67	12.81	13.20
	8H	16.24	17.36	16.66	17.75	18.16	11.39	12.51	11.81	12.90	13.30
	12H	16.34	17.42	16.77	17.80	18.23	11.47	12.55	11.90	12.93	13.36
4H	2H	13.26	14.54	13.66	14.89	15.26	9.81	11.09	10.21	11.44	11.82
	3H	15.19	16.25	15.60	16.65	17.05	11.25	12.32	11.66	12.72	13.12
	4H	15.94	16.90	16.37	17.31	17.75	11.85	12.81	12.28	13.22	13.66
	6H	16.53	17.36	16.99	17.81	18.27	12.34	13.17	12.80	13.61	14.07
	8H	16.75	17.52	17.21	17.97	18.43	12.50	13.28	12.96	13.72	14.19
	12H	16.90	17.59	17.38	18.07	18.54	12.62	13.31	13.10	13.79	14.26
8H	4H	15.96	16.74	16.43	17.18	17.65	12.20	12.98	12.67	13.43	13.89
	6H	16.60	17.24	17.10	17.73	18.21	12.79	13.43	13.29	13.92	14.40
	8H	16.85	17.43	17.36	17.94	18.43	13.01	13.59	13.53	14.10	14.59
	12H	17.05	17.56	17.56	18.06	18.62	13.19	13.70	13.70	14.19	14.76
12H	4H	15.95	16.64	16.43	17.12	17.59	12.25	12.94	12.73	13.42	13.89
	6H	16.58	17.16	17.10	17.67	18.16	12.85	13.43	13.37	13.94	14.43
	8H	16.87	17.38	17.38	17.87	18.43	13.13	13.64	13.64	14.13	14.70