

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: P929842

Luminaire Tested: DFN2DS-4P3F0-020DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929842
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-4P3F0-020DS830-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

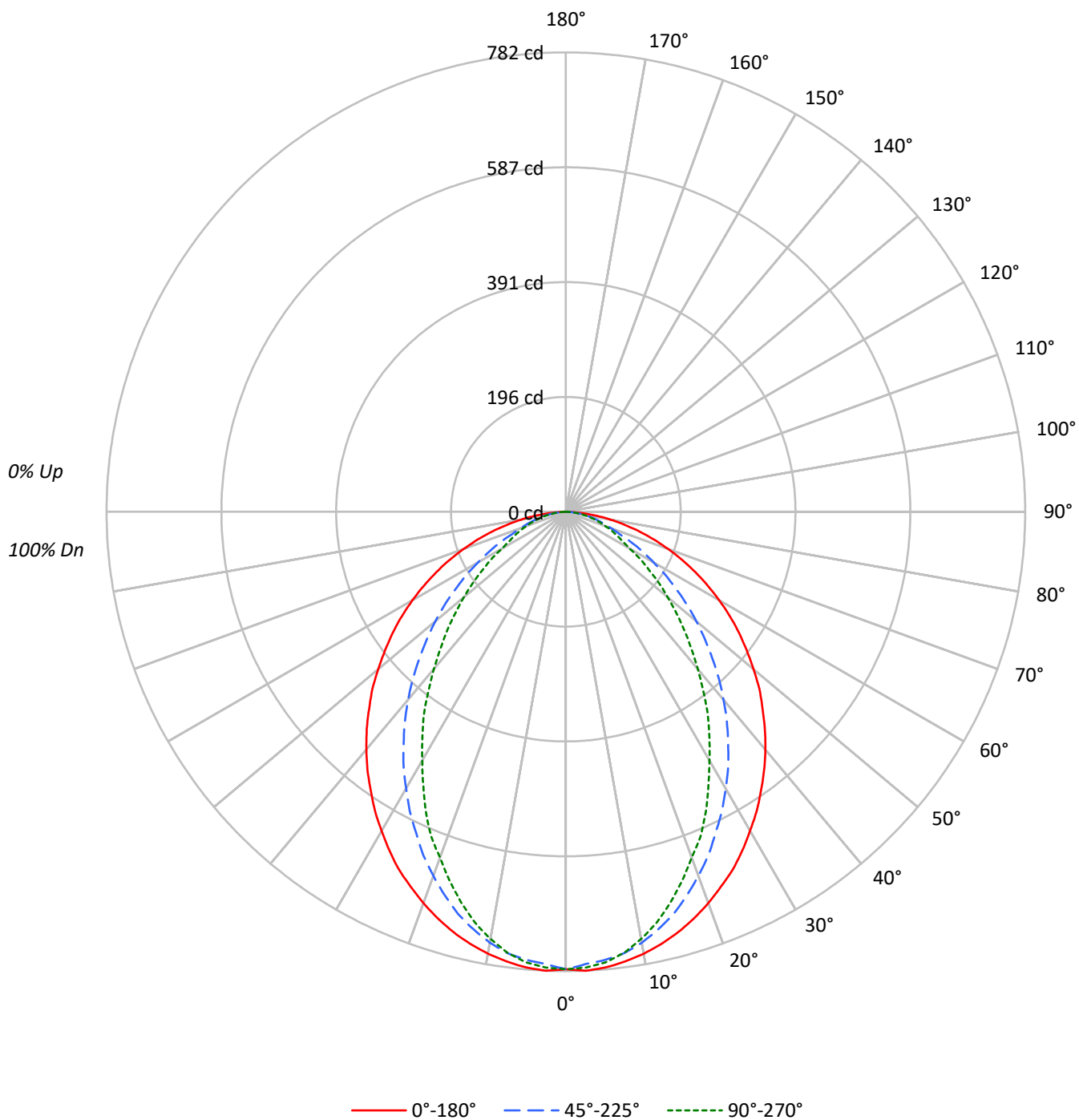
Lumens per Lamp: N/A
Luminaire Lumens: 1601.4 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	887	887	887
5°	891	876	881
10°	884	862	855
15°	874	836	812
20°	860	800	760
25°	845	758	709
30°	825	716	643
35°	806	670	586
40°	786	622	520
45°	763	568	460
50°	740	514	401
55°	715	455	344
60°	687	394	286
65°	656	331	260
70°	617	272	240
75°	571	248	224
80°	504	222	203
85°	395	175	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 763 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	10.82	12.34	11.18	12.65	12.97	6.78	8.30	7.15	8.62	8.93
	3H	12.58	13.95	12.96	14.28	14.64	8.05	9.41	8.42	9.74	10.10
	4H	13.25	14.53	13.65	14.88	15.26	8.55	9.83	8.95	10.18	10.56
	6H	13.74	14.92	14.15	15.29	15.68	8.93	10.11	9.34	10.48	10.87
	8H	13.90	15.03	14.33	15.42	15.82	9.05	10.18	9.48	10.57	10.97
	12H	14.01	15.09	14.44	15.47	15.90	9.13	10.21	9.57	10.59	11.02
4H	2H	10.92	12.20	11.32	12.55	12.93	7.48	8.76	7.88	9.11	9.48
	3H	12.86	13.92	13.27	14.32	14.72	8.92	9.98	9.33	10.38	10.78
	4H	13.61	14.56	14.04	14.98	15.42	9.52	10.47	9.95	10.89	11.33
	6H	14.20	15.03	14.65	15.47	15.93	10.01	10.84	10.46	11.28	11.74
	8H	14.41	15.19	14.88	15.63	16.10	10.17	10.95	10.63	11.39	11.86
	12H	14.56	15.26	15.05	15.74	16.21	10.29	10.98	10.77	11.46	11.93
8H	4H	13.63	14.41	14.09	14.85	15.32	9.87	10.65	10.34	11.09	11.56
	6H	14.27	14.91	14.76	15.40	15.88	10.46	11.10	10.95	11.59	12.07
	8H	14.52	15.09	15.03	15.60	16.09	10.68	11.26	11.19	11.77	12.25
	12H	14.72	15.23	15.23	15.72	16.29	10.86	11.37	11.37	11.86	12.43
12H	4H	13.61	14.31	14.10	14.79	15.26	9.92	10.61	10.40	11.09	11.56
	6H	14.25	14.83	14.76	15.34	15.82	10.52	11.10	11.03	11.61	12.10
	8H	14.53	15.04	15.04	15.53	16.10	10.80	11.31	11.31	11.80	12.36