

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: P929941

Luminaire Tested: DFN2DS-4P4F0-030DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929941
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-030DS930-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

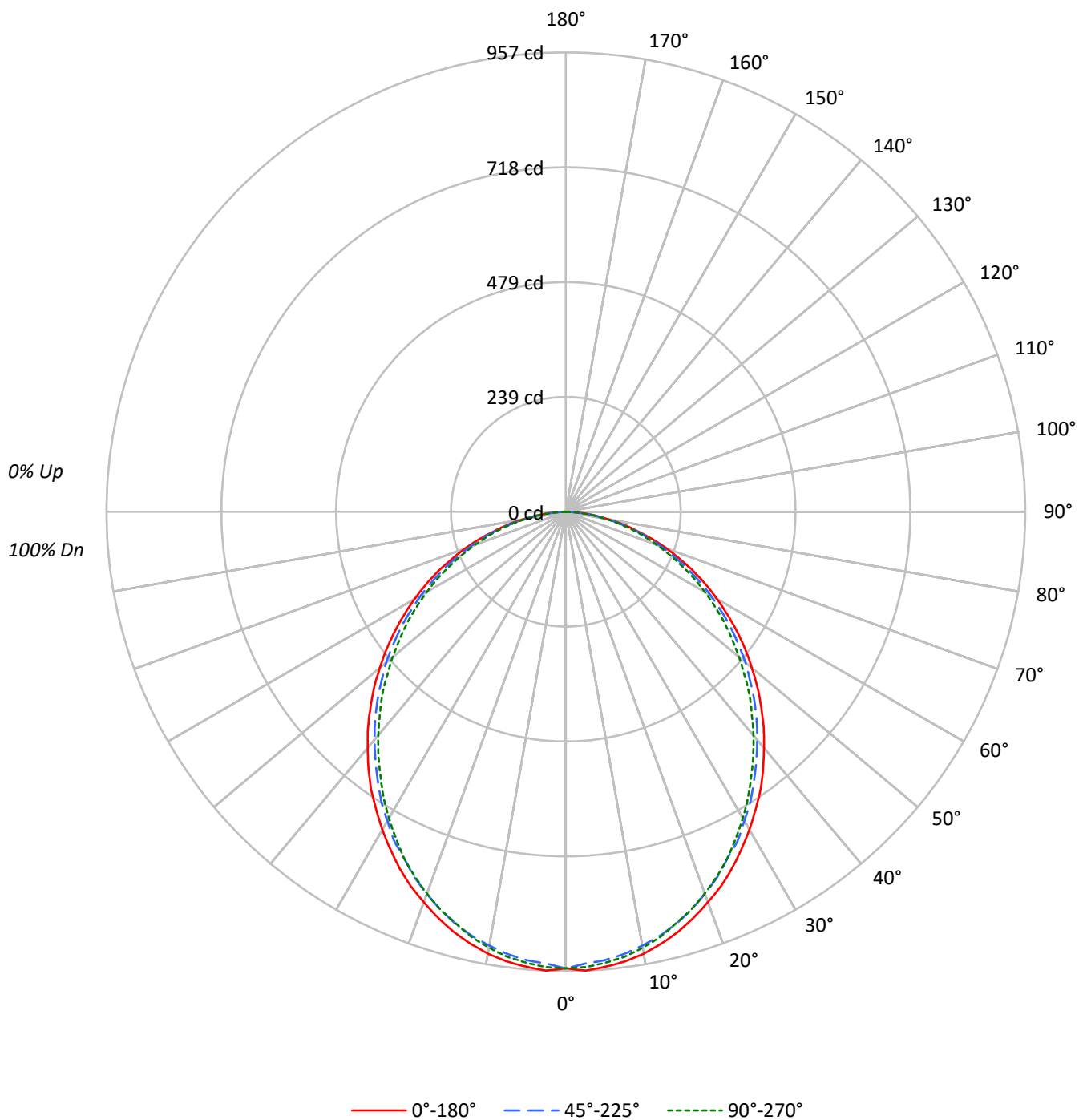
Lumens per Lamp: N/A
Luminaire Lumens: 2420.6 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	617	617	617
5°	620	611	614
10°	616	604	607
15°	608	597	596
20°	597	585	584
25°	587	570	570
30°	573	557	552
35°	560	541	533
40°	544	525	515
45°	528	509	497
50°	511	493	476
55°	493	474	456
60°	472	451	435
65°	451	428	409
70°	423	401	382
75°	385	369	360
80°	342	331	315
85°	279	266	238

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 528 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.5	3.7
10°-20°	251.9	10.4
20°-30°	370.2	15.3
30°-40°	430.0	17.8
40°-50°	429.5	17.7
50°-60°	374.5	15.5
60°-70°	276.9	11.4
70°-80°	156.6	6.5
80°-90°	41.3	1.7
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°	711.7	29.4
0°-40°	1141.7	47.2
0°-60°	1945.8	80.4
0°-90°	2420.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2420.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	951	951	951	951	951	
5°	951	948	938	945	943	90
15°	906	900	888	892	887	255
25°	820	812	797	799	797	377
35°	707	698	683	678	673	442
45°	576	569	555	545	542	444
55°	436	430	419	408	404	389
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	44
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.3	951.3	951.3	951.3	951.3
2.5°	956.9	952.3	942.2	951.3	949.6
5°	951.3	947.8	937.7	945.0	943.2
7.5°	945.0	939.5	929.4	936.8	935.0
10°	935.0	928.5	917.6	924.9	922.2
12.5°	921.2	915.7	904.8	909.3	907.5
15°	905.6	900.2	888.3	891.9	887.4
17.5°	886.4	881.0	869.0	873.6	869.0
20°	865.4	859.9	847.1	849.8	846.2
22.5°	844.4	836.2	824.2	824.2	822.3
25°	819.6	812.4	796.8	798.6	796.8
27.5°	792.2	785.7	773.9	771.2	766.7
30°	764.8	757.5	743.8	741.0	737.3
32.5°	735.5	730.1	715.4	709.9	706.2
35°	707.2	698.0	683.4	677.8	673.3
37.5°	675.1	666.9	652.2	645.8	641.2
40°	642.2	634.9	620.2	612.1	608.4
42.5°	610.2	602.9	588.3	579.1	573.6
45°	575.5	569.0	555.3	545.2	541.6
47.5°	541.6	535.2	520.5	510.4	505.0
50°	505.9	501.3	488.5	475.7	471.2
52.5°	471.2	464.7	452.9	442.8	436.4
55°	435.5	430.0	419.0	408.1	403.5
57.5°	399.8	395.2	383.3	372.3	368.6
60°	364.1	360.5	347.7	337.6	334.9
62.5°	329.3	322.9	313.8	304.6	301.0
65°	293.7	288.2	279.1	270.8	266.3
67.5°	257.1	252.5	244.3	237.9	234.2
70°	223.2	219.6	211.3	204.9	201.3
72.5°	188.5	184.8	180.2	173.8	171.1
75°	153.6	151.9	147.3	141.8	143.7
77.5°	122.6	118.9	117.0	114.3	111.7
80°	91.5	90.5	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
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	9.61	11.22	9.97	11.53	11.84	9.16	10.77	9.53	11.09	11.40
	3H	11.36	12.81	11.73	13.14	13.50	10.86	12.32	11.24	12.65	13.01
	4H	12.00	13.37	12.40	13.72	14.10	11.51	12.88	11.91	13.22	13.60
	6H	12.47	13.74	12.88	14.10	14.50	11.97	13.24	12.38	13.60	13.99
	8H	12.61	13.83	13.04	14.21	14.61	12.11	13.32	12.54	13.71	14.11
	12H	12.70	13.86	13.13	14.25	14.68	12.19	13.35	12.62	13.73	14.16
4H	2H	10.17	11.54	10.56	11.88	12.26	9.81	11.18	10.21	11.53	11.91
	3H	12.14	13.29	12.55	13.69	14.09	11.73	12.88	12.14	13.28	13.68
	4H	12.92	13.95	13.35	14.37	14.80	12.49	13.53	12.93	13.94	14.38
	6H	13.51	14.42	13.97	14.86	15.32	13.08	13.99	13.54	14.43	14.88
	8H	13.70	14.55	14.16	14.99	15.46	13.27	14.11	13.73	14.56	15.02
	12H	13.84	14.60	14.32	15.07	15.54	13.38	14.14	13.86	14.62	15.09
8H	4H	13.19	14.04	13.65	14.48	14.95	12.82	13.66	13.28	14.11	14.57
	6H	13.91	14.61	14.40	15.10	15.57	13.52	14.23	14.02	14.72	15.19
	8H	14.16	14.80	14.67	15.30	15.79	13.77	14.40	14.28	14.91	15.40
	12H	14.36	14.92	14.87	15.41	15.97	13.95	14.51	14.46	15.00	15.56
12H	4H	13.22	13.98	13.70	14.45	14.92	12.85	13.61	13.33	14.09	14.56
	6H	13.95	14.58	14.46	15.09	15.58	13.58	14.21	14.09	14.72	15.21
	8H	14.26	14.82	14.77	15.31	15.87	13.89	14.44	14.39	14.94	15.50