

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: P929931

Luminaire Tested: DFN2DS-4P4F0-030DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929931
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-4P4F0-030DS830-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

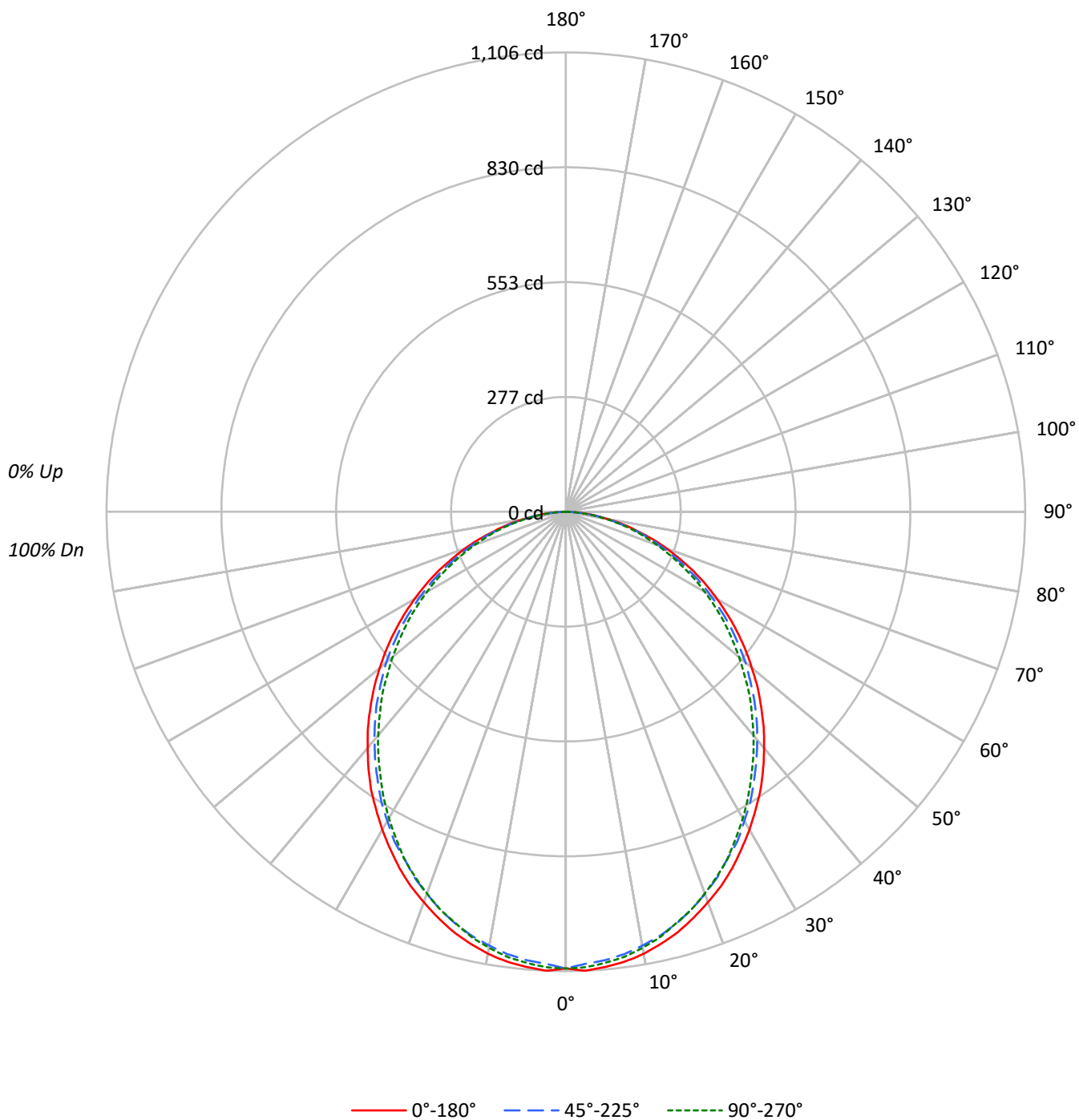
Lumens per Lamp: N/A
Luminaire Lumens: 2797.8 lumens
Efficiency: N/A
Efficacy: 99.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

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°	713	713	713
5°	716	706	710
10°	712	699	702
15°	703	690	689
20°	691	676	675
25°	678	659	659
30°	662	644	638
35°	647	626	616
40°	629	607	596
45°	610	589	574
50°	590	570	550
55°	569	548	528
60°	546	521	502
65°	521	495	472
70°	489	463	441
75°	445	427	416
80°	395	383	364
85°	322	307	275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 610 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	3.7
10°-20°	291.2	10.4
20°-30°	427.9	15.3
30°-40°	497.0	17.8
40°-50°	496.4	17.7
50°-60°	432.9	15.5
60°-70°	320.0	11.4
70°-80°	181.1	6.5
80°-90°	47.8	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°	822.6	29.4
0°-40°	1319.7	47.2
0°-60°	2249.0	80.4
0°-90°	2797.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2797.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1100	1100	1100	1100	1100	
5°	1100	1096	1084	1092	1090	104
15°	1047	1040	1027	1031	1026	295
25°	947	939	921	923	921	436
35°	817	807	790	784	778	510
45°	665	658	642	630	626	513
55°	503	497	484	472	466	450
65°	340	333	322	313	308	336
75°	178	176	170	164	166	190
85°	43	42	41	38	37	51
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1099.6	1099.6	1099.6	1099.6	1099.6
2.5°	1106.0	1100.7	1089.0	1099.6	1097.6
5°	1099.6	1095.5	1083.8	1092.2	1090.2
7.5°	1092.2	1085.9	1074.3	1082.8	1080.7
10°	1080.7	1073.2	1060.6	1069.0	1065.9
12.5°	1064.7	1058.4	1045.8	1051.0	1048.9
15°	1046.8	1040.5	1026.7	1030.9	1025.6
17.5°	1024.5	1018.3	1004.5	1009.7	1004.5
20°	1000.2	993.9	979.1	982.2	978.1
22.5°	976.0	966.5	952.6	952.6	950.5
25°	947.4	939.0	921.0	923.1	921.0
27.5°	915.6	908.2	894.5	891.4	886.1
30°	884.0	875.5	859.7	856.5	852.2
32.5°	850.2	843.8	826.9	820.5	816.2
35°	817.4	806.8	789.9	783.5	778.2
37.5°	780.4	770.8	753.9	746.4	741.2
40°	742.3	733.8	716.9	707.4	703.2
42.5°	705.3	696.8	679.9	669.3	663.0
45°	665.1	657.7	641.8	630.2	626.0
47.5°	626.0	618.6	601.7	590.0	583.7
50°	584.7	579.4	564.6	549.8	544.6
52.5°	544.6	537.1	523.5	511.8	504.3
55°	503.4	497.0	484.3	471.7	466.4
57.5°	462.1	456.8	443.0	430.3	426.1
60°	420.8	416.6	401.9	390.2	387.1
62.5°	380.7	373.2	362.7	352.1	347.9
65°	339.5	333.1	322.5	313.0	307.8
67.5°	297.2	291.8	282.3	275.0	270.7
70°	258.0	253.8	244.3	236.8	232.7
72.5°	217.9	213.6	208.3	200.9	197.8
75°	177.6	175.6	170.2	163.9	166.1
77.5°	141.7	137.4	135.3	132.2	129.1
80°	105.8	104.7	102.5	99.4	97.3
82.5°	71.9	71.9	70.9	66.6	66.6
85°	43.3	42.3	41.3	38.1	37.0
87.5°	19.0	17.0	14.8	11.7	10.6
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	10.11	11.72	10.47	12.03	12.35	9.66	11.28	10.03	11.59	11.90
	3H	11.86	13.31	12.24	13.64	14.00	11.37	12.82	11.74	13.15	13.51
	4H	12.51	13.87	12.90	14.22	14.60	12.01	13.38	12.41	13.73	14.10
	6H	12.97	14.24	13.39	14.61	15.00	12.47	13.74	12.88	14.11	14.50
	8H	13.12	14.33	13.54	14.72	15.12	12.62	13.83	13.04	14.22	14.61
	12H	13.21	14.37	13.64	14.75	15.18	12.70	13.86	13.13	14.24	14.67
4H	2H	10.67	12.04	11.07	12.39	12.76	10.32	11.69	10.71	12.03	12.41
	3H	12.64	13.79	13.05	14.19	14.59	12.24	13.38	12.65	13.78	14.18
	4H	13.42	14.46	13.85	14.87	15.31	13.00	14.03	13.43	14.45	14.88
	6H	14.02	14.92	14.47	15.36	15.82	13.59	14.49	14.04	14.93	15.39
	8H	14.21	15.05	14.67	15.50	15.96	13.77	14.62	14.23	15.06	15.52
	12H	14.34	15.10	14.82	15.57	16.04	13.89	14.65	14.37	15.12	15.59
8H	4H	13.69	14.54	14.16	14.98	15.45	13.32	14.17	13.78	14.61	15.07
	6H	14.41	15.11	14.90	15.60	16.08	14.03	14.73	14.52	15.22	15.69
	8H	14.67	15.30	15.18	15.81	16.29	14.28	14.91	14.79	15.41	15.90
	12H	14.87	15.43	15.38	15.92	16.48	14.45	15.01	14.96	15.50	16.06
12H	4H	13.72	14.48	14.20	14.96	15.43	13.36	14.12	13.84	14.59	15.06
	6H	14.45	15.09	14.96	15.59	16.08	14.09	14.72	14.60	15.22	15.71
	8H	14.77	15.33	15.28	15.82	16.38	14.39	14.95	14.90	15.44	16.00