

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: P929957

Luminaire Tested: DFN2DS-4P4F0-040DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929957
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-4P4F0-040DS927-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

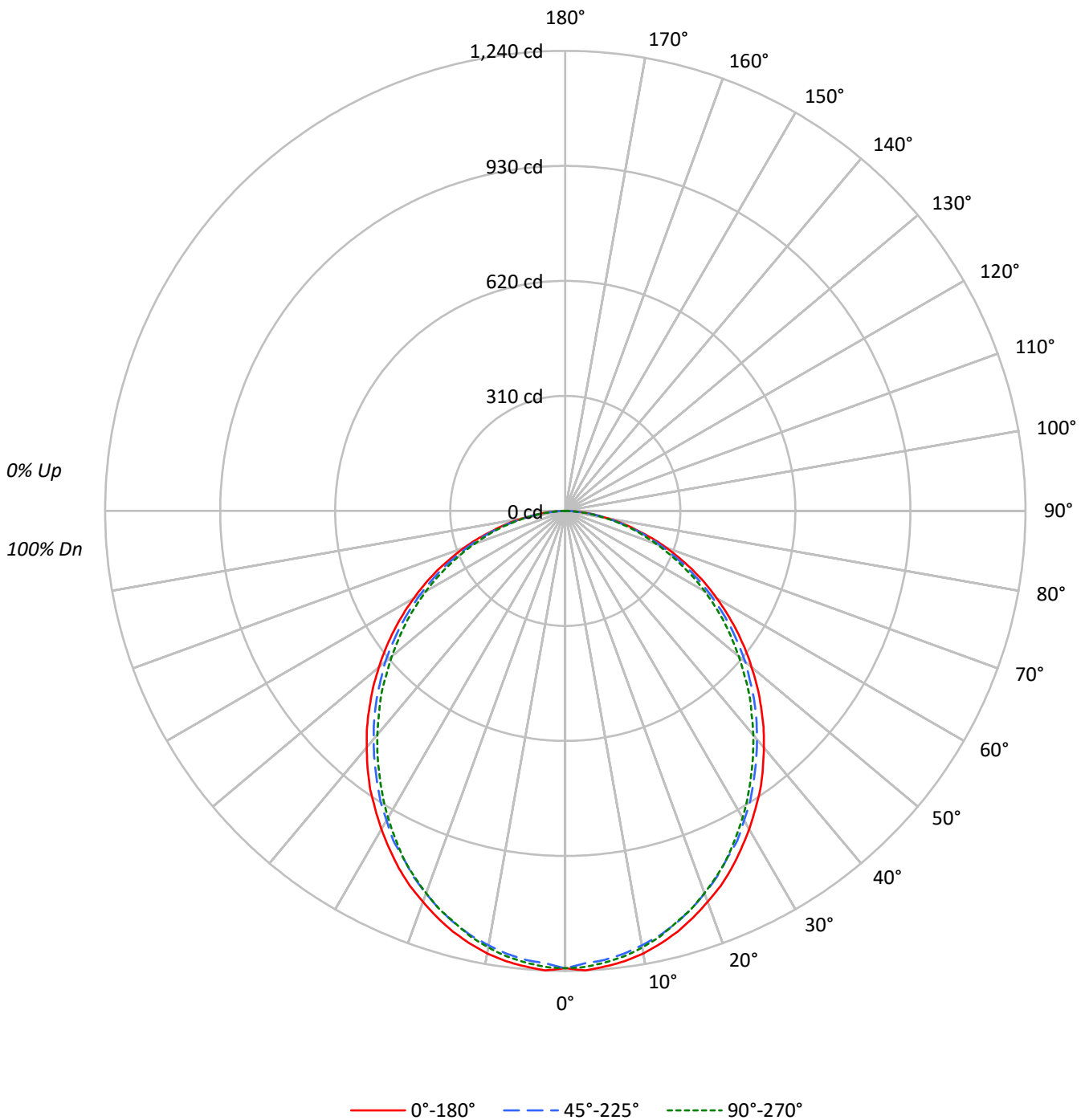
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3136.3 lumens
Efficiency: N/A
Efficacy: 79.8 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): 39.3
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				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84				84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71				71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60				60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51				51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45				45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39				39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35				35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31				31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28				28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26				26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	800	800	800
5°	803	791	796
10°	798	783	787
15°	788	773	772
20°	774	758	757
25°	760	739	739
30°	742	722	716
35°	726	701	691
40°	705	681	668
45°	684	660	644
50°	662	639	616
55°	638	614	591
60°	612	585	563
65°	584	555	530
70°	549	519	495
75°	499	478	466
80°	443	429	408
85°	361	345	309

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 684 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	3.7
10°-20°	326.4	10.4
20°-30°	479.7	15.3
30°-40°	557.2	17.8
40°-50°	556.5	17.7
50°-60°	485.2	15.5
60°-70°	358.7	11.4
70°-80°	202.9	6.5
80°-90°	53.6	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°	922.2	29.4
0°-40°	1479.4	47.2
0°-60°	2521.1	80.4
0°-90°	3136.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3136.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1228	1215	1224	1222	117
15°	1173	1166	1151	1156	1150	330
25°	1062	1053	1032	1035	1032	489
35°	916	904	886	878	872	572
45°	746	737	720	706	702	575
55°	564	557	543	529	523	504
65°	381	373	362	351	345	376
75°	199	197	191	184	186	213
85°	48	47	46	43	42	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1232.7	1232.7	1232.7	1232.7	1232.7
2.5°	1239.9	1233.9	1220.9	1232.7	1230.5
5°	1232.7	1228.0	1214.9	1224.4	1222.1
7.5°	1224.4	1217.3	1204.2	1213.8	1211.4
10°	1211.4	1203.1	1189.0	1198.4	1194.8
12.5°	1193.5	1186.5	1172.3	1178.3	1175.8
15°	1173.4	1166.4	1150.9	1155.7	1149.8
17.5°	1148.6	1141.5	1126.1	1131.9	1126.1
20°	1121.2	1114.2	1097.6	1101.1	1096.5
22.5°	1094.1	1083.4	1067.9	1067.9	1065.6
25°	1062.0	1052.6	1032.5	1034.7	1032.5
27.5°	1026.4	1018.1	1002.8	999.3	993.4
30°	991.0	981.4	963.7	960.1	955.4
32.5°	953.0	946.0	927.0	919.8	915.0
35°	916.3	904.5	885.5	878.3	872.4
37.5°	874.8	864.1	845.1	836.8	830.9
40°	832.2	822.6	803.6	793.0	788.3
42.5°	790.7	781.1	762.2	750.3	743.2
45°	745.6	737.4	719.5	706.5	701.7
47.5°	701.7	693.4	674.5	661.4	654.4
50°	655.5	649.5	633.0	616.3	610.4
52.5°	610.4	602.2	586.8	573.7	565.4
55°	564.3	557.1	542.9	528.7	522.8
57.5°	518.0	512.1	496.6	482.4	477.7
60°	471.7	467.0	450.5	437.4	433.9
62.5°	426.7	418.4	406.6	394.7	390.0
65°	380.6	373.3	361.5	350.9	345.0
67.5°	333.1	327.1	316.6	308.2	303.5
70°	289.2	284.5	273.8	265.5	260.8
72.5°	244.3	239.4	233.6	225.2	221.7
75°	199.1	196.8	190.8	183.7	186.1
77.5°	158.8	154.0	151.7	148.1	144.6
80°	118.6	117.3	114.9	111.4	109.1
82.5°	80.6	80.6	79.5	74.7	74.7
85°	48.5	47.4	46.3	42.6	41.5
87.5°	21.4	19.0	16.6	13.1	11.8
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	10.51	12.12	10.87	12.43	12.75	10.06	11.67	10.43	11.99	12.30
	3H	12.26	13.71	12.63	14.04	14.40	11.77	13.22	12.14	13.55	13.91
	4H	12.90	14.27	13.30	14.62	15.00	12.41	13.78	12.81	14.12	14.50
	6H	13.37	14.64	13.78	15.00	15.40	12.87	14.14	13.28	14.50	14.89
	8H	13.51	14.73	13.94	15.11	15.51	13.01	14.22	13.44	14.61	15.01
	12H	13.60	14.76	14.03	15.15	15.58	13.09	14.25	13.52	14.63	15.06
4H	2H	11.07	12.44	11.46	12.78	13.16	10.71	12.08	11.11	12.43	12.81
	3H	13.04	14.19	13.45	14.59	14.99	12.63	13.78	13.04	14.18	14.58
	4H	13.82	14.85	14.25	15.27	15.70	13.39	14.43	13.83	14.84	15.28
	6H	14.41	15.32	14.87	15.76	16.22	13.98	14.89	14.44	15.33	15.78
	8H	14.60	15.45	15.06	15.89	16.36	14.17	15.01	14.63	15.45	15.92
	12H	14.74	15.50	15.22	15.97	16.44	14.28	15.04	14.76	15.52	15.99
8H	4H	14.09	14.94	14.55	15.38	15.85	13.72	14.56	14.18	15.01	15.47
	6H	14.81	15.51	15.30	16.00	16.47	14.42	15.13	14.92	15.62	16.09
	8H	15.06	15.70	15.57	16.20	16.69	14.67	15.30	15.18	15.81	16.30
	12H	15.26	15.82	15.77	16.31	16.87	14.85	15.41	15.36	15.90	16.46
12H	4H	14.12	14.88	14.60	15.35	15.82	13.75	14.51	14.23	14.99	15.46
	6H	14.85	15.48	15.36	15.99	16.48	14.48	15.11	14.99	15.62	16.11
	8H	15.16	15.72	15.67	16.21	16.77	14.79	15.34	15.29	15.84	16.40