

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: P930748

Luminaire Tested: DFN2DS-PN4F0-100DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930748
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-PN4F0-100DS850-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

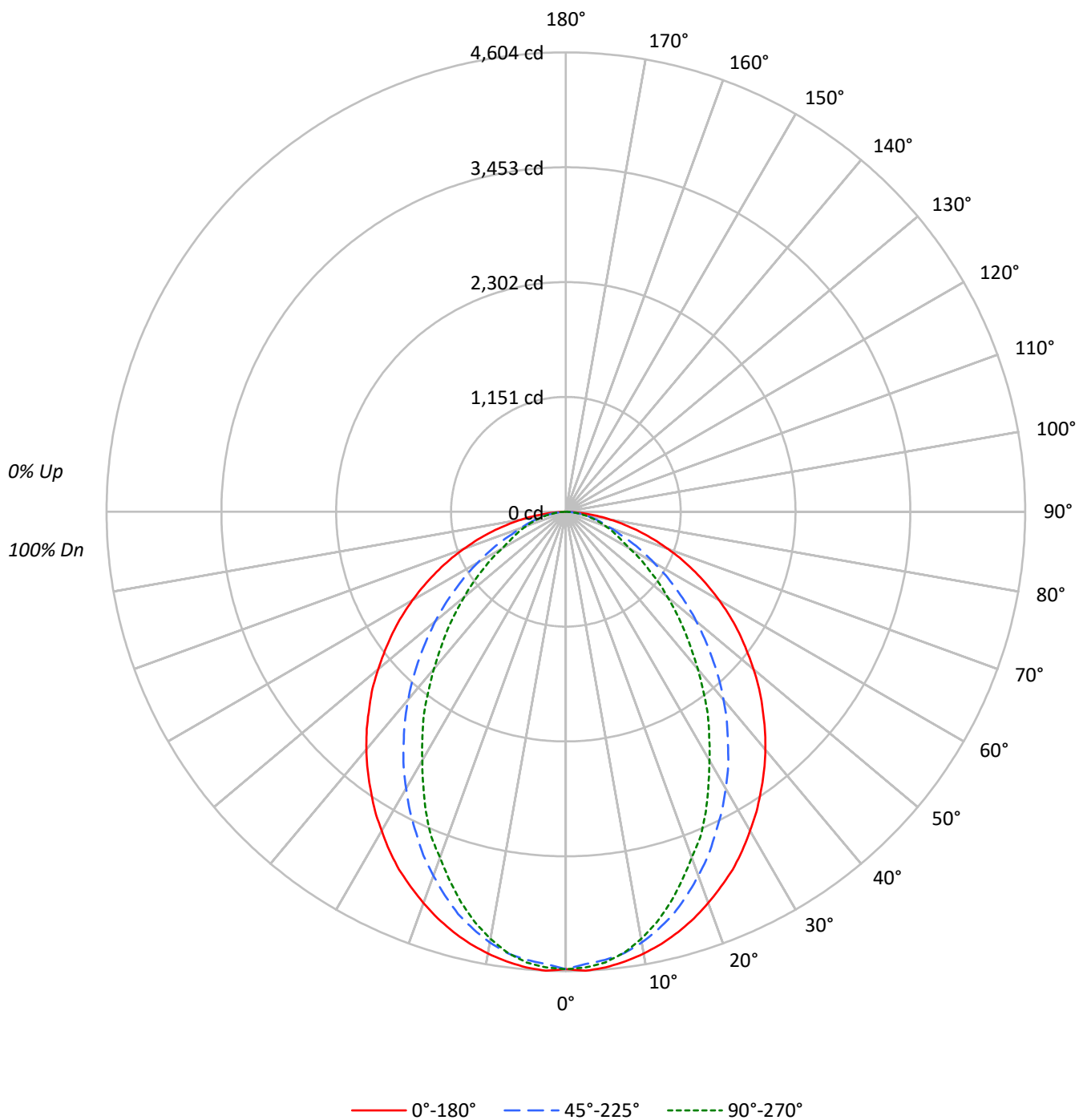
Lumens per Lamp: N/A
Luminaire Lumens: 9426.5 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930748

CATALOG NUMBER: DFN2DS-PN4F0-100DS850-RLL

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°	3346	3346	3346
5°	3359	3304	3322
10°	3333	3250	3222
15°	3295	3153	3063
20°	3241	3016	2864
25°	3187	2860	2673
30°	3112	2699	2426
35°	3038	2525	2210
40°	2964	2344	1960
45°	2878	2141	1734
50°	2789	1936	1512
55°	2697	1716	1299
60°	2592	1484	1078
65°	2472	1247	981
70°	2328	1027	903
75°	2152	936	843
80°	1900	837	768
85°	1492	659	659

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2878 cd/sqm

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CATALOG NUMBER: DFN2DS-PN4F0-100DS850-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	429.6	4.6
10°-20°	1179.3	12.5
20°-30°	1655.6	17.6
30°-40°	1804.7	19.1
40°-50°	1658.8	17.6
50°-60°	1302.7	13.8
60°-70°	847.9	9.0
70°-80°	436.5	4.6
80°-90°	111.4	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°	3264.5	34.6
0°-40°	5069.2	53.8
0°-60°	8030.6	85.2
0°-90°	9426.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9426.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4584	4584	4584	4584	4584	
5°	4584	4563	4509	4546	4534	435
15°	4360	4314	4173	4094	4053	1228
25°	3957	3824	3551	3381	3318	1820
35°	3410	3198	2833	2572	2480	2134
45°	2788	2509	2074	1779	1680	2153
55°	2119	1796	1348	1099	1020	1894
65°	1431	1095	722	581	568	1419
75°	763	473	332	303	299	807
85°	178	91	79	79	79	214
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4583.5	4583.5	4583.5	4583.5	4583.5
2.5°	4604.1	4583.5	4537.7	4579.5	4571.2
5°	4583.5	4562.8	4508.6	4546.1	4533.7
7.5°	4546.1	4521.4	4463.3	4479.6	4459.0
10°	4496.3	4467.3	4384.5	4371.8	4347.2
12.5°	4434.3	4396.9	4284.6	4260.0	4214.2
15°	4359.5	4313.7	4172.8	4094.1	4052.7
17.5°	4272.3	4205.9	4031.7	3940.5	3874.1
20°	4172.8	4089.7	3882.4	3779.0	3687.4
22.5°	4065.0	3969.6	3728.8	3588.1	3526.0
25°	3957.2	3824.4	3550.6	3380.7	3318.2
27.5°	3828.7	3687.4	3384.7	3189.7	3094.2
30°	3691.9	3533.8	3202.0	2990.9	2878.6
32.5°	3559.0	3367.9	3028.2	2779.2	2675.2
35°	3409.7	3198.1	2833.3	2571.9	2480.3
37.5°	3264.6	3036.1	2650.6	2364.2	2260.7
40°	3111.0	2862.3	2459.7	2165.2	2057.4
42.5°	2953.4	2688.0	2269.1	1961.9	1858.5
45°	2787.5	2509.3	2074.2	1779.3	1679.8
47.5°	2630.0	2335.6	1887.5	1592.6	1501.6
50°	2455.7	2161.2	1704.9	1418.4	1331.7
52.5°	2285.3	1974.2	1530.6	1256.8	1178.1
55°	2119.4	1796.0	1348.0	1099.4	1020.5
57.5°	1949.6	1617.7	1186.5	954.1	887.6
60°	1775.3	1443.5	1016.2	804.9	738.5
62.5°	1605.4	1273.6	870.9	672.1	639.0
65°	1431.2	1094.9	721.7	580.9	568.1
67.5°	1265.3	929.0	580.9	510.0	497.7
70°	1090.9	767.5	481.0	439.6	423.0
72.5°	925.0	617.8	402.2	369.2	360.9
75°	763.1	472.7	331.8	302.8	298.8
77.5°	601.6	335.8	261.4	244.6	236.3
80°	451.9	240.8	199.0	182.7	182.7
82.5°	315.1	161.9	136.9	128.5	128.5
85°	178.2	91.0	78.7	78.7	78.7
87.5°	66.4	33.0	33.0	29.1	29.1
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	15.43	16.95	15.80	17.27	17.58	11.39	12.91	11.76	13.23	13.54
	3H	17.20	18.56	17.57	18.89	19.25	12.66	14.02	13.03	14.35	14.71
	4H	17.86	19.14	18.26	19.49	19.87	13.16	14.44	13.56	14.79	15.17
	6H	18.35	19.53	18.76	19.90	20.29	13.54	14.72	13.95	15.09	15.48
	8H	18.52	19.64	18.94	20.03	20.43	13.66	14.79	14.09	15.18	15.58
	12H	18.62	19.70	19.05	20.08	20.51	13.74	14.82	14.17	15.20	15.63
4H	2H	15.53	16.82	15.93	17.16	17.54	12.09	13.37	12.49	13.72	14.09
	3H	17.47	18.53	17.88	18.93	19.33	13.53	14.59	13.94	14.99	15.39
	4H	18.22	19.17	18.65	19.59	20.03	14.13	15.09	14.56	15.50	15.94
	6H	18.81	19.64	19.27	20.08	20.54	14.62	15.45	15.07	15.89	16.35
	8H	19.02	19.80	19.49	20.24	20.71	14.78	15.56	15.24	16.00	16.47
	12H	19.18	19.87	19.66	20.35	20.82	14.90	15.59	15.38	16.07	16.54
8H	4H	18.24	19.02	18.70	19.46	19.93	14.48	15.26	14.95	15.70	16.17
	6H	18.88	19.52	19.38	20.01	20.49	15.07	15.71	15.57	16.20	16.68
	8H	19.13	19.71	19.64	20.22	20.70	15.29	15.87	15.80	16.38	16.87
	12H	19.33	19.84	19.84	20.34	20.90	15.47	15.98	15.98	16.47	17.04
12H	4H	18.23	18.92	18.71	19.40	19.87	14.53	15.22	15.01	15.70	16.17
	6H	18.86	19.44	19.37	19.95	20.44	15.13	15.71	15.65	16.22	16.71
	8H	19.14	19.65	19.65	20.15	20.71	15.41	15.92	15.92	16.41	16.97