

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: P930018

Luminaire Tested: DFN2DS-4P4F0-070DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930018
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-4P4F0-070DS940-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

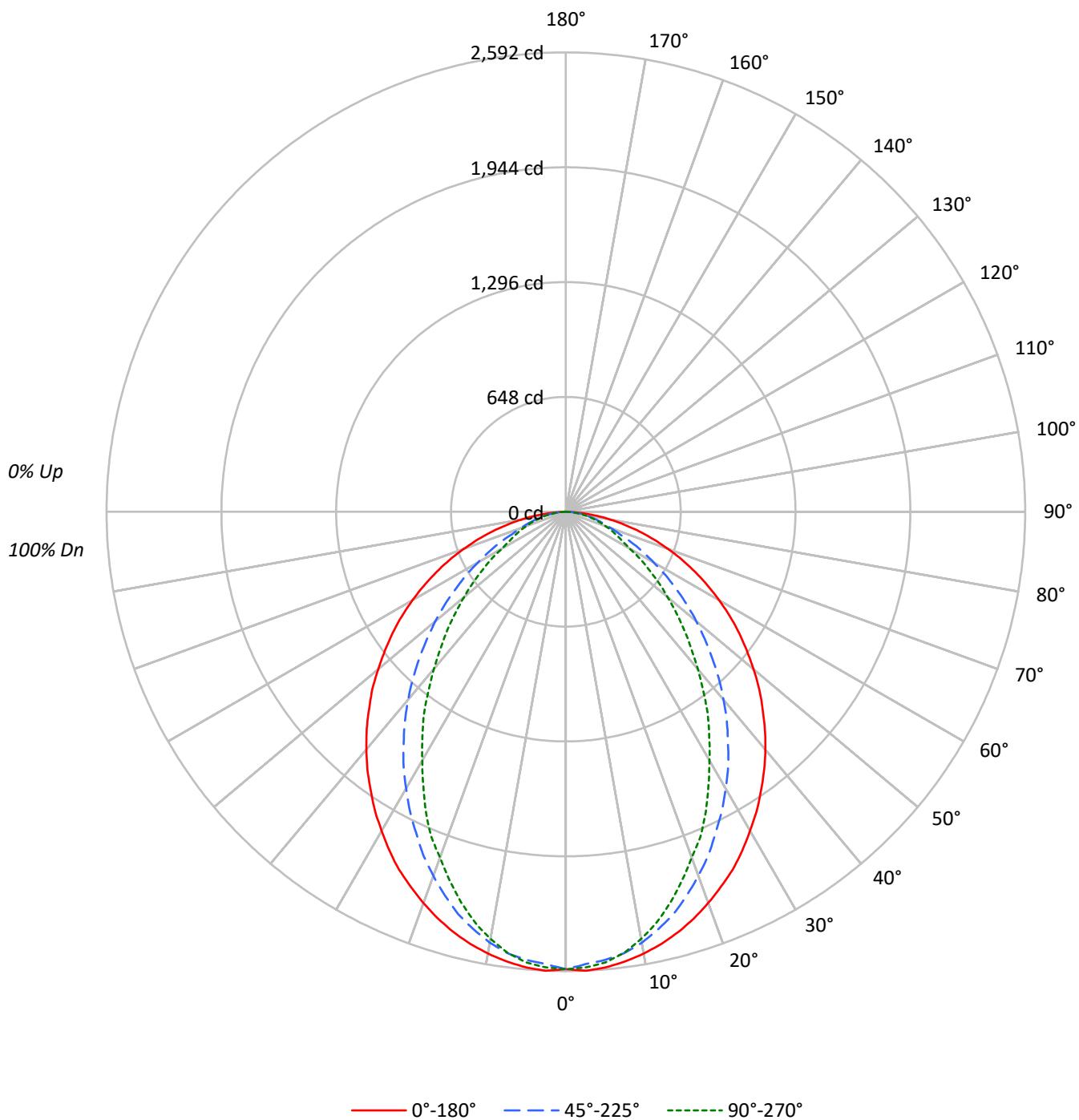
Lumens per Lamp: N/A
Luminaire Lumens: 5307.4 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 74.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86		
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74		
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64		
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55		
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49		
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43		
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39		
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35		
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32		
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1674	1674	1674
5°	1681	1653	1662
10°	1668	1626	1612
15°	1649	1578	1533
20°	1622	1509	1433
25°	1595	1431	1337
30°	1557	1350	1214
35°	1520	1263	1106
40°	1483	1173	981
45°	1440	1071	868
50°	1395	969	757
55°	1350	858	650
60°	1297	742	539
65°	1237	624	491
70°	1165	514	452
75°	1077	468	422
80°	951	418	384
85°	747	330	330

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1440 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.9	4.6
10°-20°	664.0	12.5
20°-30°	932.2	17.6
30°-40°	1016.1	19.1
40°-50°	933.9	17.6
50°-60°	733.5	13.8
60°-70°	477.4	9.0
70°-80°	245.7	4.6
80°-90°	62.7	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°	1838.0	34.6
0°-40°	2854.1	53.8
0°-60°	4521.5	85.2
0°-90°	5307.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5307.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2581	2581	2581	2581	2581	
5°	2581	2569	2538	2560	2553	245
15°	2454	2429	2349	2305	2282	692
25°	2228	2153	1999	1903	1868	1025
35°	1920	1801	1595	1448	1396	1202
45°	1570	1413	1168	1002	946	1212
55°	1193	1011	759	619	575	1066
65°	806	616	406	327	320	799
75°	430	266	187	170	168	454
85°	100	51	44	44	44	120
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2580.6	2580.6	2580.6	2580.6	2580.6
2.5°	2592.2	2580.6	2554.9	2578.4	2573.7
5°	2580.6	2569.0	2538.5	2559.6	2552.6
7.5°	2559.6	2545.7	2513.0	2522.1	2510.5
10°	2531.6	2515.3	2468.6	2461.5	2447.6
12.5°	2496.6	2475.6	2412.4	2398.5	2372.7
15°	2454.5	2428.7	2349.4	2305.1	2281.8
17.5°	2405.5	2368.1	2270.0	2218.6	2181.2
20°	2349.4	2302.6	2185.9	2127.7	2076.1
22.5°	2288.8	2235.0	2099.4	2020.1	1985.2
25°	2228.0	2153.2	1999.1	1903.4	1868.3
27.5°	2155.7	2076.1	1905.7	1796.0	1742.2
30°	2078.6	1989.7	1802.8	1683.9	1620.8
32.5°	2003.8	1896.3	1705.0	1564.7	1506.2
35°	1919.8	1800.6	1595.3	1448.1	1396.5
37.5°	1838.1	1709.4	1492.4	1331.0	1272.9
40°	1751.5	1611.6	1384.8	1219.1	1158.4
42.5°	1662.9	1513.5	1277.5	1104.6	1046.4
45°	1569.5	1412.8	1167.8	1001.8	945.8
47.5°	1480.7	1315.0	1062.7	896.7	845.4
50°	1382.6	1216.9	959.9	798.6	749.8
52.5°	1286.7	1111.5	861.8	707.6	663.3
55°	1193.3	1011.2	758.9	619.0	574.6
57.5°	1097.7	910.8	668.0	537.2	499.8
60°	999.6	812.7	572.1	453.2	415.8
62.5°	903.9	717.1	490.3	378.4	359.7
65°	805.7	616.5	406.4	327.1	319.9
67.5°	712.4	523.1	327.1	287.1	280.3
70°	614.2	432.1	270.8	247.5	238.1
72.5°	520.8	347.9	226.5	207.9	203.2
75°	429.7	266.1	186.8	170.5	168.2
77.5°	338.7	189.0	147.2	137.7	133.1
80°	254.5	135.5	112.0	102.8	102.8
82.5°	177.4	91.2	77.1	72.3	72.3
85°	100.4	51.3	44.3	44.3	44.3
87.5°	37.4	18.6	18.6	16.3	16.3
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	13.02	14.55	13.39	14.86	15.17	8.99	10.51	9.35	10.82	11.14
	3H	14.79	16.16	15.17	16.48	16.85	10.25	11.62	10.63	11.94	12.31
	4H	15.46	16.74	15.86	17.09	17.46	10.75	12.03	11.15	12.38	12.76
	6H	15.95	17.13	16.36	17.50	17.89	11.13	12.32	11.55	12.68	13.07
	8H	16.11	17.24	16.54	17.63	18.03	11.26	12.38	11.68	12.77	13.18
	12H	16.21	17.29	16.64	17.67	18.10	11.34	12.42	11.77	12.80	13.23
4H	2H	13.13	14.41	13.53	14.76	15.14	9.68	10.96	10.08	11.31	11.69
	3H	15.06	16.13	15.47	16.52	16.93	11.12	12.19	11.53	12.59	12.99
	4H	15.81	16.77	16.24	17.18	17.62	11.72	12.68	12.16	13.10	13.53
	6H	16.40	17.24	16.86	17.68	18.14	12.21	13.04	12.67	13.49	13.95
	8H	16.62	17.40	17.08	17.84	18.31	12.37	13.15	12.84	13.59	14.06
	12H	16.77	17.47	17.25	17.94	18.42	12.49	13.18	12.97	13.66	14.13
8H	4H	15.84	16.61	16.30	17.06	17.52	12.08	12.85	12.54	13.30	13.77
	6H	16.47	17.12	16.97	17.61	18.08	12.66	13.31	13.16	13.80	14.27
	8H	16.72	17.30	17.24	17.81	18.30	12.88	13.46	13.40	13.97	14.46
	12H	16.93	17.44	17.44	17.93	18.49	13.06	13.57	13.57	14.07	14.63
12H	4H	15.82	16.51	16.30	16.99	17.46	12.12	12.82	12.60	13.29	13.76
	6H	16.45	17.03	16.97	17.54	18.03	12.73	13.30	13.24	13.81	14.30
	8H	16.74	17.25	17.25	17.74	18.31	13.00	13.51	13.51	14.00	14.57