

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: P930031

Luminaire Tested: DFN2DS-4P4F0-080DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930031
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-4P4F0-080DS930-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

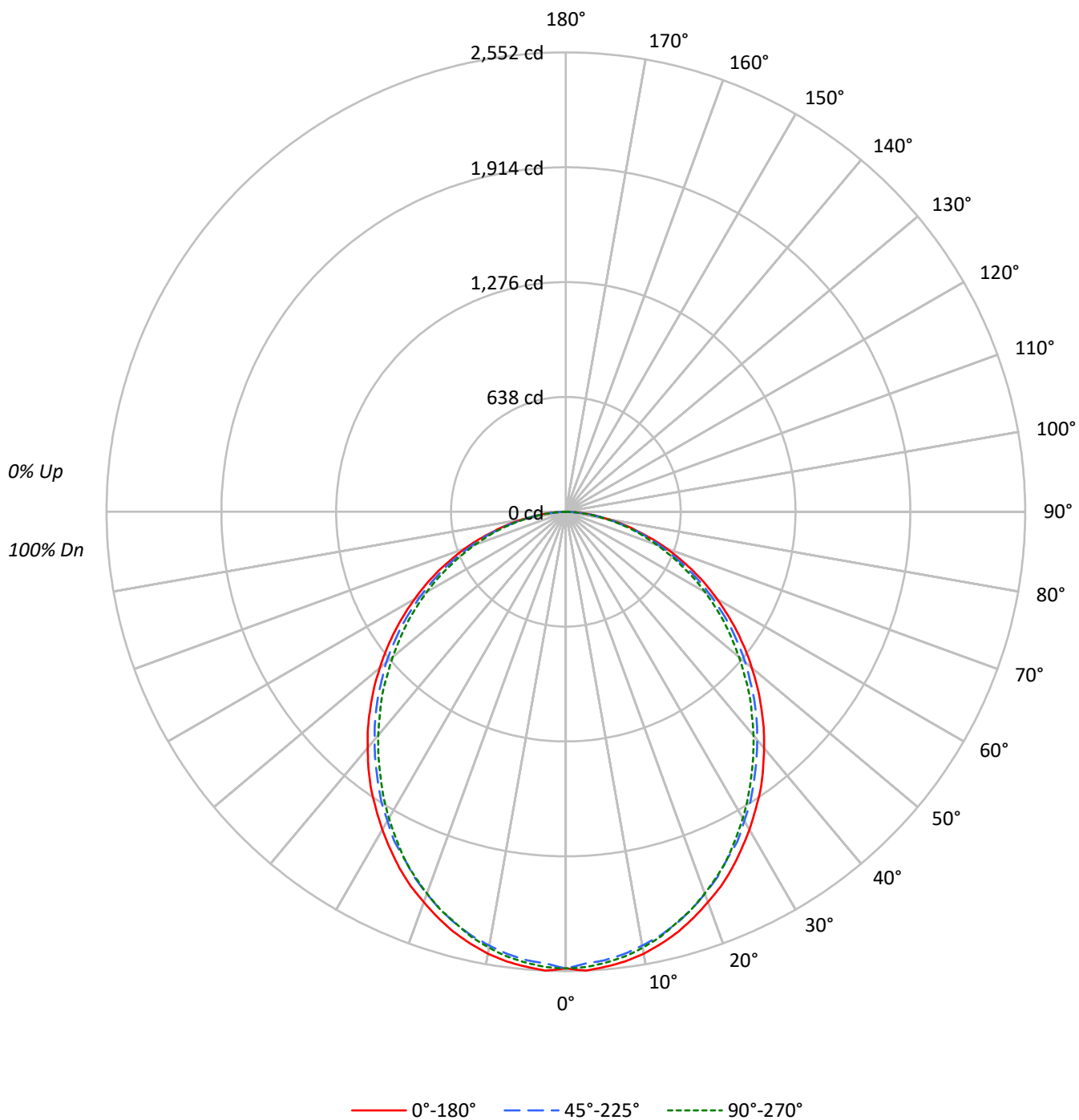
Lumens per Lamp: N/A
Luminaire Lumens: 6454.8 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 86.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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°	1646	1646	1646
5°	1652	1628	1638
10°	1642	1612	1620
15°	1622	1591	1589
20°	1593	1560	1558
25°	1565	1521	1521
30°	1528	1486	1473
35°	1493	1443	1422
40°	1450	1401	1374
45°	1408	1358	1325
50°	1361	1315	1268
55°	1313	1264	1217
60°	1260	1203	1159
65°	1202	1142	1090
70°	1129	1069	1018
75°	1027	984	960
80°	912	884	838
85°	744	709	636

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1408 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.8	3.7
10°-20°	671.8	10.4
20°-30°	987.3	15.3
30°-40°	1146.7	17.8
40°-50°	1145.3	17.7
50°-60°	998.7	15.5
60°-70°	738.2	11.4
70°-80°	417.7	6.5
80°-90°	110.2	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°	1898.0	29.4
0°-40°	3044.7	47.2
0°-60°	5188.6	80.4
0°-90°	6454.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6454.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2537	2537	2537	2537	2537	
5°	2537	2527	2500	2520	2515	241
15°	2415	2401	2369	2379	2366	680
25°	2186	2166	2125	2130	2125	1006
35°	1886	1862	1822	1808	1795	1178
45°	1535	1517	1481	1454	1444	1184
55°	1161	1146	1117	1088	1076	1038
65°	783	768	744	722	710	774
75°	410	405	393	378	383	437
85°	100	98	95	88	85	117
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2536.9	2536.9	2536.9	2536.9	2536.9
2.5°	2551.7	2539.5	2512.6	2536.9	2532.3
5°	2536.9	2527.4	2500.5	2519.9	2515.3
7.5°	2519.9	2505.4	2478.5	2498.1	2493.2
10°	2493.2	2476.1	2446.9	2466.3	2459.1
12.5°	2456.5	2442.0	2412.7	2424.9	2420.0
15°	2415.1	2400.6	2368.7	2378.6	2366.4
17.5°	2363.8	2349.3	2317.5	2329.7	2317.5
20°	2307.7	2293.2	2259.0	2266.3	2256.7
22.5°	2251.8	2229.8	2197.9	2197.9	2193.0
25°	2185.7	2166.4	2124.9	2129.6	2124.9
27.5°	2112.5	2095.4	2063.8	2056.6	2044.4
30°	2039.5	2019.8	1983.4	1976.1	1966.3
32.5°	1961.4	1946.9	1907.8	1893.0	1883.2
35°	1885.7	1861.5	1822.3	1807.6	1795.4
37.5°	1800.3	1778.3	1739.3	1722.2	1710.0
40°	1712.6	1692.9	1653.9	1632.1	1622.3
42.5°	1627.2	1607.5	1568.7	1544.1	1529.7
45°	1534.6	1517.4	1480.7	1454.0	1444.3
47.5°	1444.3	1427.1	1388.0	1361.1	1346.6
50°	1349.0	1336.8	1302.6	1268.5	1256.3
52.5°	1256.3	1239.2	1207.7	1180.8	1163.7
55°	1161.3	1146.5	1117.4	1088.1	1075.9
57.5°	1066.1	1054.0	1022.1	992.8	983.0
60°	970.8	961.3	927.1	900.2	892.9
62.5°	878.2	861.1	836.8	812.5	802.6
65°	783.2	768.5	744.1	722.1	709.9
67.5°	685.6	673.2	651.4	634.4	624.5
70°	595.3	585.4	563.5	546.4	536.8
72.5°	502.6	492.8	480.6	463.6	456.3
75°	409.7	405.1	392.7	378.2	383.0
77.5°	326.9	317.0	312.1	304.9	297.6
80°	244.1	241.5	236.6	229.3	224.4
82.5°	165.9	165.9	163.6	153.7	153.7
85°	99.9	97.6	95.3	87.8	85.4
87.5°	44.0	39.1	34.1	26.9	24.4
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	13.01	14.62	13.38	14.94	15.25	12.57	14.18	12.93	14.49	14.81
	3H	14.76	16.22	15.14	16.55	16.91	14.27	15.73	14.65	16.05	16.41
	4H	15.41	16.78	15.81	17.13	17.50	14.92	16.28	15.31	16.63	17.01
	6H	15.88	17.15	16.29	17.51	17.90	15.38	16.65	15.79	17.01	17.40
	8H	16.02	17.23	16.45	17.62	18.02	15.52	16.73	15.94	17.12	17.52
	12H	16.11	17.27	16.54	17.65	18.08	15.60	16.76	16.03	17.14	17.57
4H	2H	13.57	14.94	13.97	15.29	15.67	13.22	14.59	13.62	14.94	15.31
	3H	15.55	16.70	15.96	17.09	17.49	15.14	16.29	15.55	16.69	17.09
	4H	16.33	17.36	16.76	17.78	18.21	15.90	16.94	16.33	17.35	17.79
	6H	16.92	17.83	17.38	18.27	18.72	16.49	17.39	16.94	17.84	18.29
	8H	17.11	17.96	17.57	18.40	18.87	16.67	17.52	17.13	17.96	18.43
	12H	17.24	18.00	17.72	18.48	18.95	16.79	17.55	17.27	18.03	18.50
8H	4H	16.60	17.45	17.06	17.89	18.35	16.22	17.07	16.69	17.51	17.98
	6H	17.31	18.02	17.81	18.50	18.98	16.93	17.63	17.43	18.12	18.60
	8H	17.57	18.20	18.08	18.71	19.20	17.18	17.81	17.69	18.32	18.80
	12H	17.77	18.33	18.28	18.82	19.38	17.36	17.92	17.87	18.41	18.97
12H	4H	16.63	17.39	17.11	17.86	18.33	16.26	17.02	16.74	17.50	17.97
	6H	17.36	17.99	17.87	18.50	18.98	16.99	17.62	17.50	18.13	18.61
	8H	17.67	18.23	18.18	18.72	19.28	17.29	17.85	17.80	18.34	18.90