

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: P930739

Luminaire Tested: DFN2DS-PN4F0-090DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930739
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-PN4F0-090DS950-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

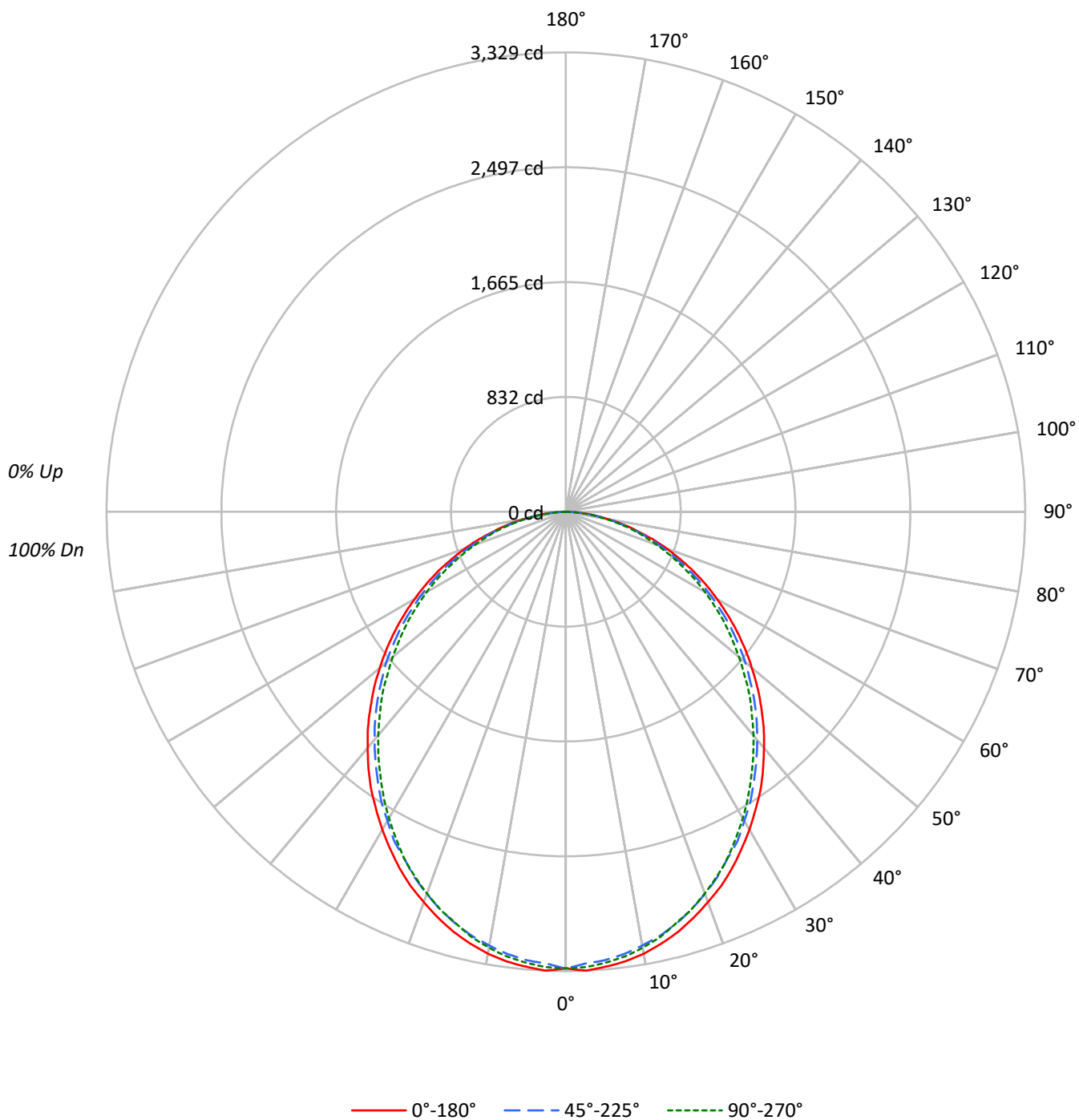
Lumens per Lamp: N/A
Luminaire Lumens: 8420.0 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 93.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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°	2416	2416	2416
5°	2425	2390	2404
10°	2411	2366	2378
15°	2381	2335	2333
20°	2338	2289	2287
25°	2296	2233	2233
30°	2242	2181	2162
35°	2192	2118	2087
40°	2129	2056	2017
45°	2066	1994	1945
50°	1998	1930	1861
55°	1928	1855	1786
60°	1849	1765	1701
65°	1765	1676	1600
70°	1657	1569	1494
75°	1507	1445	1409
80°	1338	1297	1231
85°	1091	1041	933

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2066 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.5	3.7
10°-20°	876.4	10.4
20°-30°	1287.9	15.3
30°-40°	1495.9	17.8
40°-50°	1494.0	17.7
50°-60°	1302.7	15.5
60°-70°	963.0	11.4
70°-80°	544.8	6.5
80°-90°	143.8	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°	2475.8	29.4
0°-40°	3971.6	47.2
0°-60°	6768.3	80.4
0°-90°	8420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3309	3309	3309	3309	3309	
5°	3309	3297	3262	3287	3281	314
15°	3150	3131	3090	3103	3087	887
25°	2851	2826	2772	2778	2772	1312
35°	2460	2428	2377	2358	2342	1536
45°	2002	1980	1932	1897	1884	1545
55°	1515	1496	1458	1419	1404	1354
65°	1022	1002	971	942	926	1010
75°	534	528	512	493	500	571
85°	130	127	124	114	111	153
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3309.3	3309.3	3309.3	3309.3	3309.3
2.5°	3328.6	3312.7	3277.6	3309.3	3303.2
5°	3309.3	3296.8	3261.8	3287.1	3280.9
7.5°	3287.1	3268.2	3233.0	3258.7	3252.3
10°	3252.3	3230.0	3191.8	3217.2	3207.7
12.5°	3204.3	3185.4	3147.3	3163.1	3156.8
15°	3150.3	3131.4	3089.9	3102.7	3086.8
17.5°	3083.4	3064.5	3023.1	3038.9	3023.1
20°	3010.2	2991.3	2946.7	2956.1	2943.7
22.5°	2937.2	2908.6	2867.0	2867.0	2860.6
25°	2851.2	2825.8	2771.9	2777.9	2771.9
27.5°	2755.6	2733.3	2692.2	2682.8	2666.9
30°	2660.5	2634.8	2587.1	2577.7	2564.9
32.5°	2558.5	2539.6	2488.6	2469.4	2456.5
35°	2459.9	2428.2	2377.1	2358.0	2342.1
37.5°	2348.5	2319.8	2268.8	2246.5	2230.7
40°	2234.0	2208.4	2157.3	2129.0	2116.2
42.5°	2122.6	2097.0	2046.3	2014.3	1995.4
45°	2001.7	1979.5	1931.5	1896.7	1884.0
47.5°	1884.0	1861.6	1810.6	1775.6	1756.7
50°	1759.7	1743.8	1699.2	1654.7	1638.8
52.5°	1638.8	1616.5	1575.3	1540.3	1518.0
55°	1514.9	1495.7	1457.5	1419.4	1403.5
57.5°	1390.7	1374.8	1333.3	1295.1	1282.3
60°	1266.4	1253.9	1209.3	1174.3	1164.8
62.5°	1145.5	1123.2	1091.5	1059.8	1047.0
65°	1021.6	1002.4	970.6	942.0	926.1
67.5°	894.3	878.2	849.7	827.5	814.7
70°	776.5	763.7	735.0	712.7	700.2
72.5°	655.6	642.8	626.9	604.7	595.3
75°	534.5	528.3	512.2	493.3	499.7
77.5°	426.4	413.6	407.2	397.8	388.3
80°	318.4	315.0	308.5	299.1	292.8
82.5°	216.4	216.4	213.4	200.5	200.5
85°	130.3	127.3	124.3	114.4	111.4
87.5°	57.4	50.9	44.6	35.2	31.8
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	14.35	15.96	14.71	16.27	16.59	13.90	15.51	14.27	15.83	16.14
	3H	16.10	17.55	16.47	17.88	18.24	15.61	17.06	15.98	17.39	17.75
	4H	16.74	18.11	17.14	18.46	18.84	16.25	17.62	16.65	17.97	18.34
	6H	17.21	18.48	17.62	18.85	19.24	16.71	17.98	17.12	18.34	18.74
	8H	17.36	18.57	17.78	18.96	19.35	16.85	18.06	17.28	18.45	18.85
	12H	17.45	18.61	17.88	18.99	19.42	16.93	18.09	17.36	18.48	18.90
4H	2H	14.91	16.28	15.31	16.62	17.00	14.55	15.92	14.95	16.27	16.65
	3H	16.88	18.03	17.29	18.43	18.83	16.48	17.62	16.89	18.02	18.42
	4H	17.66	18.69	18.09	19.11	19.54	17.24	18.27	17.67	18.68	19.12
	6H	18.26	19.16	18.71	19.60	20.06	17.82	18.73	18.28	19.17	19.62
	8H	18.44	19.29	18.91	19.73	20.20	18.01	18.85	18.47	19.30	19.76
	12H	18.58	19.34	19.06	19.81	20.28	18.12	18.88	18.60	19.36	19.83
8H	4H	17.93	18.78	18.39	19.22	19.69	17.56	18.40	18.02	18.85	19.31
	6H	18.65	19.35	19.14	19.84	20.31	18.27	18.97	18.76	19.46	19.93
	8H	18.91	19.54	19.42	20.04	20.53	18.51	19.14	19.02	19.65	20.14
	12H	19.11	19.66	19.61	20.15	20.72	18.69	19.25	19.20	19.74	20.30
12H	4H	17.96	18.72	18.44	19.19	19.66	17.59	18.35	18.07	18.83	19.30
	6H	18.69	19.32	19.20	19.83	20.32	18.32	18.96	18.83	19.46	19.95
	8H	19.01	19.56	19.51	20.05	20.62	18.63	19.19	19.13	19.68	20.24