

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: P930725

Luminaire Tested: DFN2DS-PN4F0-090DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930725
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-PN4F0-090DS835-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

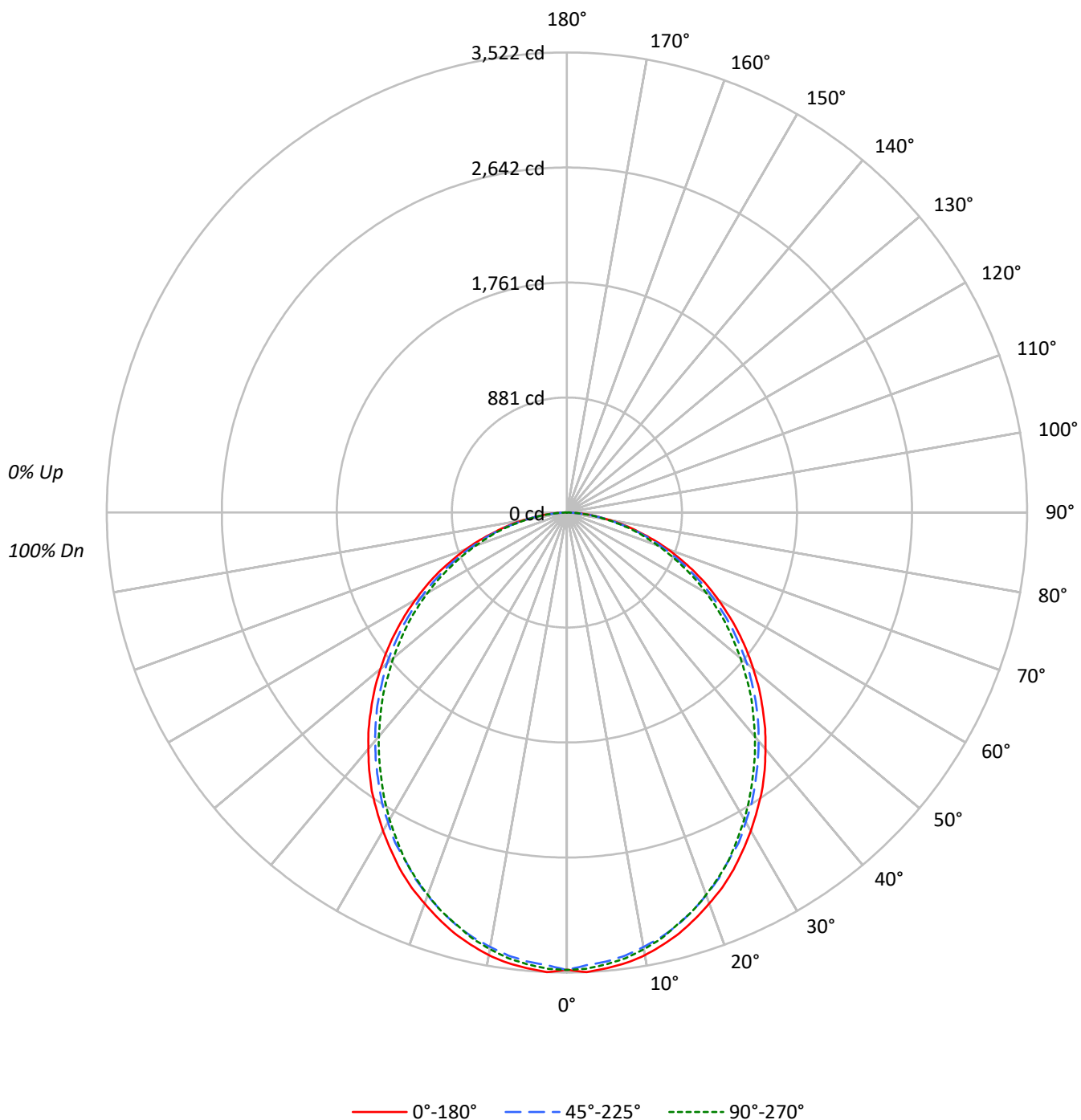
Lumens per Lamp: N/A
Luminaire Lumens: 8910.0 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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°	2556	2556	2556
5°	2566	2529	2544
10°	2551	2504	2516
15°	2519	2471	2469
20°	2474	2422	2420
25°	2430	2362	2362
30°	2373	2308	2288
35°	2320	2242	2209
40°	2253	2175	2134
45°	2187	2110	2058
50°	2115	2042	1969
55°	2040	1963	1890
60°	1956	1868	1799
65°	1867	1774	1693
70°	1754	1660	1581
75°	1595	1529	1491
80°	1416	1372	1302
85°	1155	1101	987

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2187 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.6	3.7
10°-20°	927.4	10.4
20°-30°	1362.9	15.3
30°-40°	1582.9	17.8
40°-50°	1580.9	17.7
50°-60°	1378.5	15.5
60°-70°	1019.0	11.4
70°-80°	576.6	6.5
80°-90°	152.2	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°	2619.9	29.4
0°-40°	4202.8	47.2
0°-60°	7162.3	80.4
0°-90°	8910.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8910.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3502	3502	3502	3502	3502	
5°	3502	3489	3452	3478	3472	332
15°	3334	3314	3270	3283	3266	939
25°	3017	2990	2933	2940	2933	1388
35°	2603	2570	2516	2495	2478	1626
45°	2118	2095	2044	2007	1994	1635
55°	1603	1583	1542	1502	1485	1433
65°	1081	1061	1027	997	980	1069
75°	566	559	542	522	529	604
85°	138	135	132	121	118	162
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3501.9	3501.9	3501.9	3501.9	3501.9
2.5°	3522.3	3505.5	3468.4	3501.9	3495.5
5°	3501.9	3488.7	3451.6	3478.4	3471.9
7.5°	3478.4	3458.4	3421.2	3448.4	3441.6
10°	3441.6	3418.0	3377.6	3404.4	3394.4
12.5°	3390.8	3370.8	3330.5	3347.2	3340.5
15°	3333.7	3313.7	3269.7	3283.3	3266.5
17.5°	3262.9	3242.9	3199.0	3215.8	3199.0
20°	3185.4	3165.4	3118.2	3128.2	3115.0
22.5°	3108.2	3077.9	3033.9	3033.9	3027.1
25°	3017.1	2990.3	2933.2	2939.6	2933.2
27.5°	2916.0	2892.4	2848.9	2838.9	2822.1
30°	2815.3	2788.1	2737.7	2727.7	2714.2
32.5°	2707.4	2687.4	2633.4	2613.1	2599.5
35°	2603.1	2569.5	2515.5	2495.2	2478.4
37.5°	2485.2	2454.8	2400.8	2377.3	2360.5
40°	2364.0	2336.9	2282.9	2252.9	2239.4
42.5°	2246.1	2219.0	2165.4	2131.5	2111.5
45°	2118.2	2094.7	2043.9	2007.1	1993.6
47.5°	1993.6	1970.0	1916.0	1878.9	1858.9
50°	1862.1	1845.3	1798.1	1751.0	1734.2
52.5°	1734.2	1710.6	1667.0	1629.9	1606.3
55°	1603.1	1582.7	1542.3	1502.0	1485.2
57.5°	1471.6	1454.8	1410.9	1370.5	1356.9
60°	1340.1	1326.9	1279.7	1242.6	1232.6
62.5°	1212.2	1188.6	1155.0	1121.5	1107.9
65°	1081.1	1060.7	1027.1	996.8	980.0
67.5°	946.4	929.3	899.2	875.7	862.1
70°	821.7	808.1	777.8	754.2	741.0
72.5°	693.8	680.2	663.4	639.9	629.9
75°	565.6	559.1	542.0	522.0	528.8
77.5°	451.2	437.7	430.9	420.9	410.9
80°	336.9	333.3	326.5	316.5	309.8
82.5°	229.0	229.0	225.8	212.2	212.2
85°	137.9	134.7	131.5	121.1	117.9
87.5°	60.7	53.9	47.2	37.2	33.6
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	14.54	16.15	14.91	16.47	16.78	14.10	15.71	14.46	16.02	16.34
	3H	16.29	17.75	16.67	18.07	18.44	15.80	17.26	16.18	17.58	17.94
	4H	16.94	18.31	17.34	18.66	19.03	16.45	17.81	16.84	18.16	18.54
	6H	17.41	18.68	17.82	19.04	19.43	16.91	18.18	17.32	18.54	18.93
	8H	17.55	18.76	17.98	19.15	19.55	17.05	18.26	17.47	18.65	19.05
	12H	17.64	18.80	18.07	19.18	19.61	17.13	18.29	17.56	18.67	19.10
4H	2H	15.10	16.47	15.50	16.82	17.20	14.75	16.12	15.15	16.47	16.84
	3H	17.08	18.23	17.49	18.62	19.02	16.67	17.82	17.08	18.22	18.62
	4H	17.86	18.89	18.29	19.30	19.74	17.43	18.47	17.86	18.88	19.32
	6H	18.45	19.36	18.91	19.80	20.25	18.02	18.92	18.47	19.37	19.82
	8H	18.64	19.49	19.10	19.93	20.40	18.20	19.05	18.66	19.49	19.96
	12H	18.77	19.53	19.25	20.01	20.48	18.32	19.08	18.80	19.56	20.03
8H	4H	18.13	18.98	18.59	19.42	19.88	17.75	18.60	18.22	19.04	19.51
	6H	18.84	19.55	19.34	20.03	20.51	18.46	19.16	18.96	19.65	20.13
	8H	19.10	19.73	19.61	20.24	20.73	18.71	19.34	19.22	19.85	20.33
	12H	19.30	19.86	19.81	20.35	20.91	18.89	19.45	19.40	19.94	20.50
12H	4H	18.15	18.91	18.63	19.39	19.86	17.79	18.55	18.27	19.03	19.50
	6H	18.89	19.52	19.40	20.03	20.51	18.52	19.15	19.03	19.66	20.14
	8H	19.20	19.76	19.71	20.25	20.81	18.82	19.38	19.33	19.87	20.43

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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