

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: P930759

Luminaire Tested: DFN2DS-PN4F0-110DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930759
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-PN4F0-110DS830-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

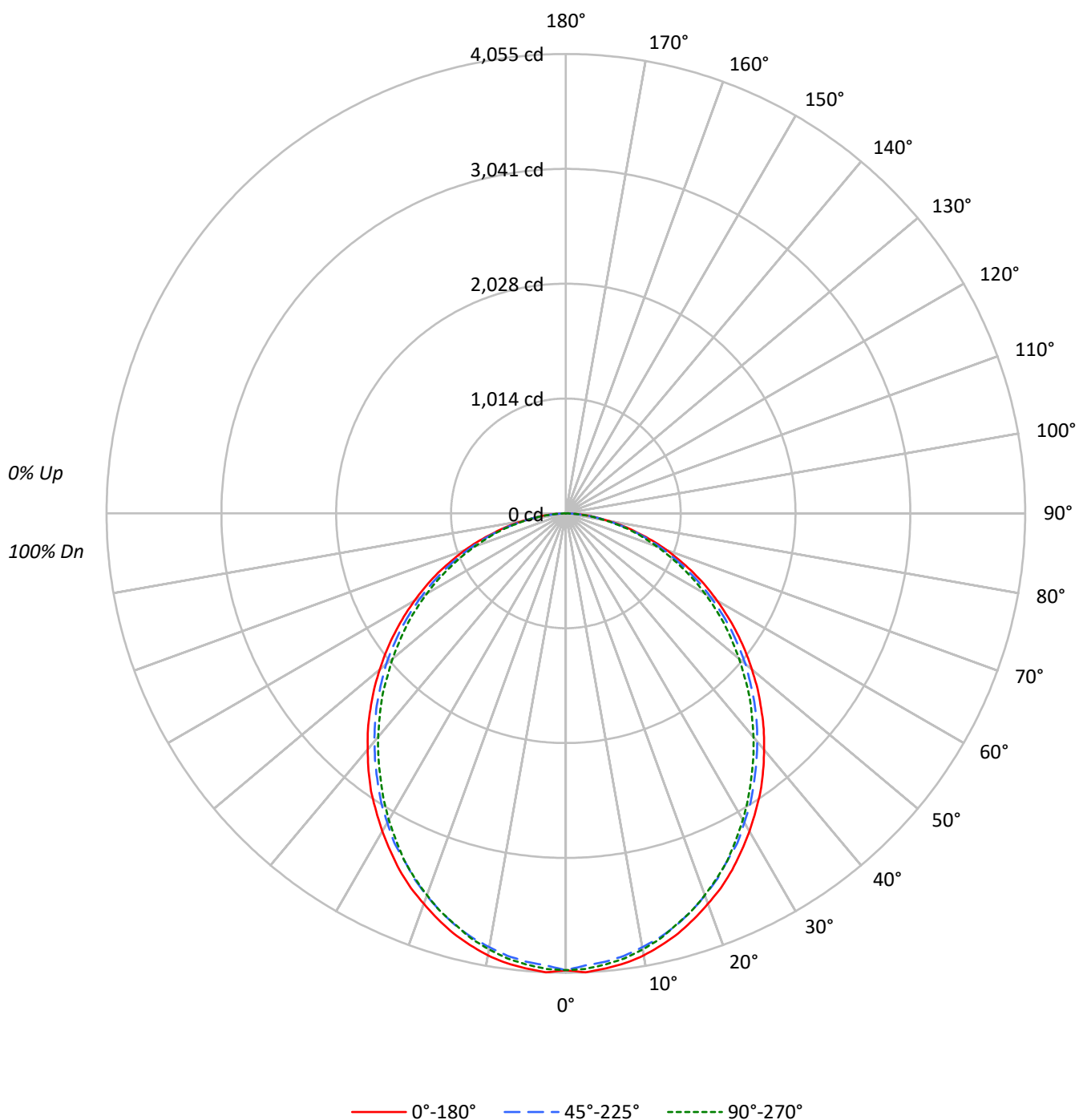
Lumens per Lamp: N/A
Luminaire Lumens: 10258.4 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 119
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	2943	2943	2943
5°	2954	2912	2929
10°	2937	2882	2897
15°	2901	2845	2842
20°	2849	2789	2786
25°	2798	2720	2720
30°	2732	2657	2634
35°	2671	2581	2543
40°	2594	2505	2457
45°	2518	2429	2369
50°	2435	2351	2267
55°	2349	2260	2176
60°	2253	2151	2072
65°	2150	2043	1949
70°	2019	1911	1821
75°	1836	1760	1717
80°	1631	1581	1499
85°	1330	1268	1137

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2518 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	379.5	3.7
10°-20°	1067.7	10.4
20°-30°	1569.1	15.3
30°-40°	1822.4	17.8
40°-50°	1820.2	17.7
50°-60°	1587.1	15.5
60°-70°	1173.3	11.4
70°-80°	663.8	6.5
80°-90°	175.2	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°	3016.3	29.4
0°-40°	4838.8	47.2
0°-60°	8246.1	80.4
0°-90°	10258.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10258.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4032	4032	4032	4032	4032	
5°	4032	4017	3974	4005	3997	383
15°	3838	3815	3764	3780	3761	1081
25°	3474	3443	3377	3384	3377	1598
35°	2997	2958	2896	2873	2853	1872
45°	2439	2412	2353	2311	2295	1882
55°	1846	1822	1776	1729	1710	1650
65°	1245	1221	1183	1148	1128	1231
75°	651	644	624	601	609	695
85°	159	155	151	139	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4031.9	4031.9	4031.9	4031.9	4031.9
2.5°	4055.3	4036.0	3993.2	4031.9	4024.5
5°	4031.9	4016.7	3973.9	4004.7	3997.4
7.5°	4004.7	3981.7	3939.0	3970.2	3962.4
10°	3962.4	3935.2	3888.8	3919.6	3908.1
12.5°	3904.0	3880.9	3834.5	3853.8	3846.0
15°	3838.2	3815.1	3764.5	3780.2	3760.8
17.5°	3756.7	3733.7	3683.1	3702.4	3683.1
20°	3667.5	3644.4	3590.2	3601.6	3586.5
22.5°	3578.7	3543.6	3493.0	3493.0	3485.2
25°	3473.7	3442.9	3377.1	3384.5	3377.1
27.5°	3357.3	3330.2	3279.9	3268.5	3249.1
30°	3241.3	3210.1	3152.0	3140.5	3124.9
32.5°	3117.1	3094.1	3031.9	3008.5	2992.8
35°	2997.0	2958.4	2896.2	2872.7	2853.4
37.5°	2861.2	2826.3	2764.2	2737.0	2717.7
40°	2721.8	2690.5	2628.5	2593.9	2578.3
42.5°	2586.1	2554.8	2493.1	2454.0	2431.0
45°	2438.8	2411.6	2353.2	2310.9	2295.3
47.5°	2295.3	2268.1	2206.0	2163.2	2140.1
50°	2143.9	2124.6	2070.2	2016.0	1996.7
52.5°	1996.7	1969.4	1919.3	1876.5	1849.3
55°	1845.7	1822.2	1775.8	1729.2	1709.9
57.5°	1694.3	1675.0	1624.4	1577.8	1562.2
60°	1542.9	1527.7	1473.4	1430.6	1419.1
62.5°	1395.7	1368.5	1329.8	1291.2	1275.6
65°	1244.7	1221.2	1182.6	1147.6	1128.3
67.5°	1089.6	1069.9	1035.4	1008.2	992.6
70°	946.1	930.4	895.5	868.3	853.1
72.5°	798.8	783.2	763.9	736.7	725.2
75°	651.1	643.8	624.0	601.0	608.8
77.5°	519.5	503.9	496.1	484.6	473.1
80°	387.9	383.8	376.0	364.5	356.6
82.5°	263.7	263.7	260.0	244.4	244.4
85°	158.8	155.1	151.4	139.4	135.7
87.5°	69.9	62.1	54.3	42.8	38.6
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	15.03	16.64	15.40	16.96	17.27	14.59	16.20	14.95	16.51	16.83
	3H	16.78	18.24	17.16	18.56	18.92	16.29	17.75	16.67	18.07	18.43
	4H	17.43	18.80	17.83	19.15	19.52	16.93	18.30	17.33	18.65	19.03
	6H	17.90	19.17	18.31	19.53	19.92	17.40	18.67	17.81	19.03	19.42
	8H	18.04	19.25	18.47	19.64	20.04	17.54	18.75	17.96	19.14	19.54
	12H	18.13	19.29	18.56	19.67	20.10	17.62	18.78	18.05	19.16	19.59
4H	2H	15.59	16.96	15.99	17.31	17.69	15.24	16.61	15.64	16.96	17.33
	3H	17.57	18.71	17.98	19.11	19.51	17.16	18.31	17.57	18.71	19.11
	4H	18.35	19.38	18.78	19.79	20.23	17.92	18.96	18.35	19.37	19.81
	6H	18.94	19.85	19.40	20.29	20.74	18.51	19.41	18.96	19.85	20.31
	8H	19.13	19.98	19.59	20.42	20.89	18.69	19.54	19.15	19.98	20.45
	12H	19.26	20.02	19.74	20.50	20.97	18.81	19.57	19.29	20.05	20.52
8H	4H	18.62	19.47	19.08	19.91	20.37	18.24	19.09	18.70	19.53	20.00
	6H	19.33	20.04	19.83	20.52	21.00	18.95	19.65	19.45	20.14	20.62
	8H	19.59	20.22	20.10	20.73	21.22	19.20	19.83	19.71	20.34	20.82
	12H	19.79	20.35	20.30	20.84	21.40	19.38	19.94	19.89	20.43	20.99
12H	4H	18.64	19.40	19.12	19.88	20.35	18.28	19.04	18.76	19.52	19.98
	6H	19.38	20.01	19.89	20.52	21.00	19.01	19.64	19.52	20.15	20.63
	8H	19.69	20.25	20.20	20.74	21.30	19.31	19.87	19.82	20.36	20.92