

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: P930737

Luminaire Tested: DFN2DS-PN4F0-090DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930737
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-PN4F0-090DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

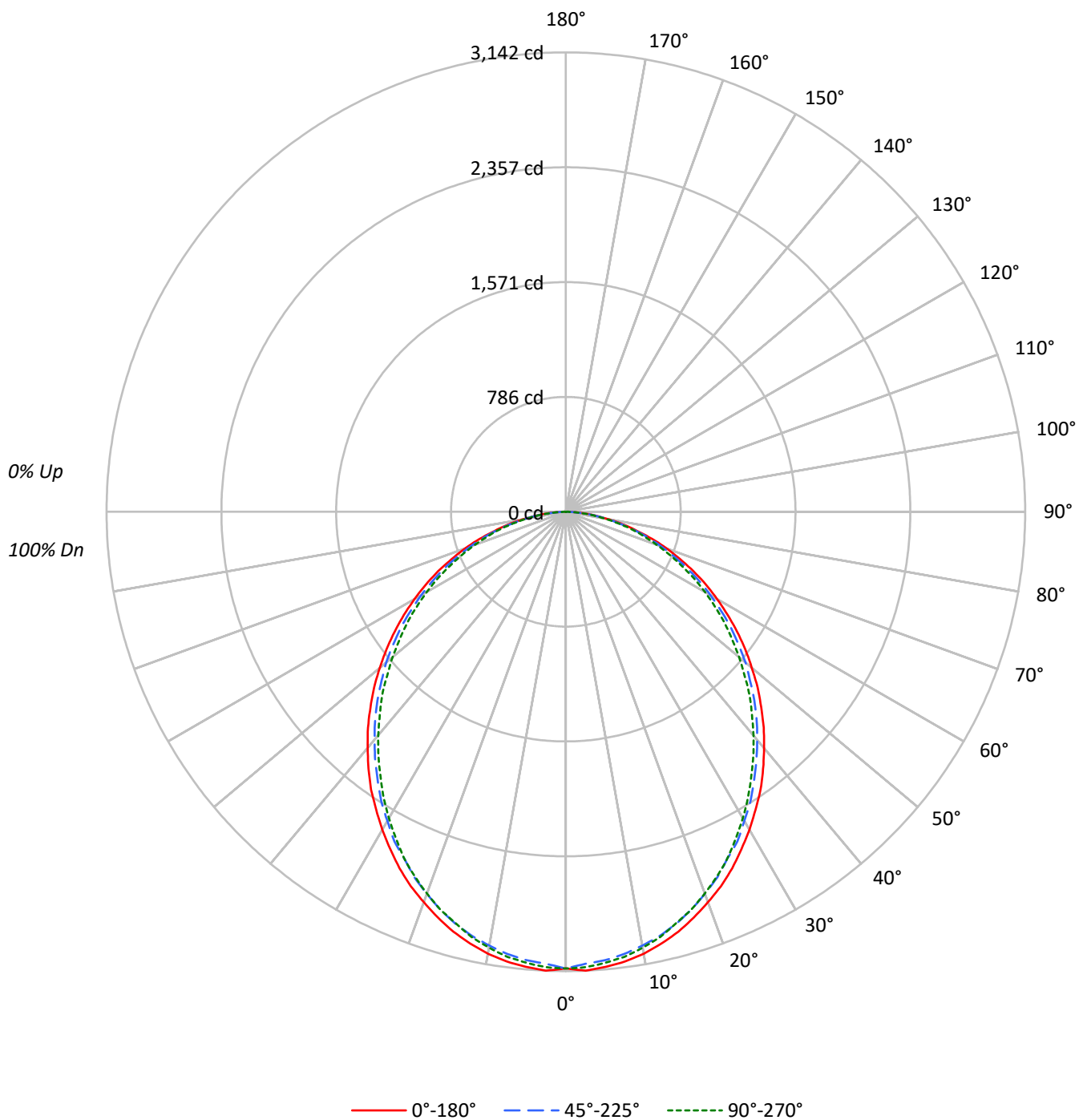
Lumens per Lamp: N/A
Luminaire Lumens: 7947.7 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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°	2280	2280	2280
5°	2289	2256	2269
10°	2275	2233	2244
15°	2247	2204	2202
20°	2207	2161	2158
25°	2168	2107	2107
30°	2117	2058	2041
35°	2069	1999	1970
40°	2009	1940	1903
45°	1950	1882	1836
50°	1886	1821	1757
55°	1820	1751	1686
60°	1745	1666	1605
65°	1666	1582	1510
70°	1564	1481	1411
75°	1423	1364	1330
80°	1263	1224	1161
85°	1030	982	881

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1950 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.0	3.7
10°-20°	827.2	10.4
20°-30°	1215.7	15.3
30°-40°	1412.0	17.8
40°-50°	1410.2	17.7
50°-60°	1229.7	15.5
60°-70°	909.0	11.4
70°-80°	514.3	6.5
80°-90°	135.7	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°	2336.9	29.4
0°-40°	3748.9	47.2
0°-60°	6388.7	80.4
0°-90°	7947.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7947.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3124	3124	3124	3124	3124	
5°	3124	3112	3079	3103	3097	297
15°	2974	2956	2917	2929	2914	837
25°	2691	2667	2616	2622	2616	1238
35°	2322	2292	2244	2226	2211	1450
45°	1889	1868	1823	1790	1778	1458
55°	1430	1412	1376	1340	1325	1278
65°	964	946	916	889	874	953
75°	504	499	484	466	472	539
85°	123	120	117	108	105	145
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3123.7	3123.7	3123.7	3123.7	3123.7
2.5°	3141.9	3126.9	3093.8	3123.7	3118.0
5°	3123.7	3111.9	3078.8	3102.7	3096.9
7.5°	3102.7	3084.9	3051.7	3076.0	3069.9
10°	3069.9	3048.9	3012.8	3036.7	3027.8
12.5°	3024.6	3006.8	2970.8	2985.7	2979.7
15°	2973.7	2955.8	2916.6	2928.7	2913.7
17.5°	2910.5	2892.7	2853.5	2868.5	2853.5
20°	2841.4	2823.5	2781.4	2790.4	2778.6
22.5°	2772.5	2745.5	2706.2	2706.2	2700.2
25°	2691.3	2667.3	2616.4	2622.1	2616.4
27.5°	2601.1	2580.0	2541.2	2532.3	2517.3
30°	2511.2	2487.0	2442.0	2433.1	2421.1
32.5°	2415.0	2397.2	2349.0	2330.9	2318.8
35°	2322.0	2292.0	2243.8	2225.7	2210.7
37.5°	2216.8	2189.7	2141.5	2120.6	2105.6
40°	2108.7	2084.5	2036.3	2009.6	1997.5
42.5°	2003.5	1979.3	1931.5	1901.3	1883.5
45°	1889.4	1868.5	1823.2	1790.3	1778.3
47.5°	1778.3	1757.2	1709.1	1676.0	1658.1
50°	1661.0	1646.0	1603.9	1561.9	1546.9
52.5°	1546.9	1525.9	1487.0	1453.9	1432.8
55°	1430.0	1411.8	1375.7	1339.8	1324.8
57.5°	1312.7	1297.7	1258.5	1222.5	1210.4
60°	1195.4	1183.6	1141.5	1108.4	1099.5
62.5°	1081.3	1060.2	1030.3	1000.4	988.2
65°	964.3	946.1	916.2	889.1	874.2
67.5°	844.2	828.9	802.1	781.1	769.0
70°	733.0	720.8	693.8	672.7	661.0
72.5°	618.9	606.7	591.8	570.8	561.9
75°	504.5	498.7	483.5	465.6	471.7
77.5°	402.5	390.4	384.4	375.4	366.5
80°	300.5	297.3	291.2	282.3	276.3
82.5°	204.3	204.3	201.4	189.3	189.3
85°	123.0	120.2	117.3	108.0	105.2
87.5°	54.1	48.1	42.1	33.2	30.0
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	14.15	15.76	14.51	16.07	16.39	13.70	15.31	14.07	15.63	15.94
	3H	15.90	17.35	16.27	17.68	18.04	15.41	16.86	15.78	17.19	17.55
	4H	16.54	17.91	16.94	18.26	18.64	16.05	17.42	16.45	17.76	18.14
	6H	17.01	18.28	17.42	18.65	19.04	16.51	17.78	16.92	18.14	18.53
	8H	17.15	18.37	17.58	18.75	19.15	16.65	17.86	17.08	18.25	18.65
	12H	17.25	18.41	17.67	18.79	19.22	16.73	17.89	17.16	18.27	18.70
4H	2H	14.71	16.08	15.11	16.42	16.80	14.35	15.72	14.75	16.07	16.45
	3H	16.68	17.83	17.09	18.23	18.63	16.28	17.42	16.68	17.82	18.22
	4H	17.46	18.49	17.89	18.91	19.34	17.03	18.07	17.47	18.48	18.92
	6H	18.05	18.96	18.51	19.40	19.86	17.62	18.53	18.08	18.97	19.42
	8H	18.24	19.09	18.70	19.53	20.00	17.81	18.65	18.27	19.10	19.56
	12H	18.38	19.14	18.86	19.61	20.08	17.92	18.68	18.40	19.16	19.63
8H	4H	17.73	18.58	18.19	19.02	19.49	17.36	18.20	17.82	18.65	19.11
	6H	18.45	19.15	18.94	19.64	20.11	18.06	18.77	18.56	19.26	19.73
	8H	18.71	19.34	19.22	19.84	20.33	18.31	18.94	18.82	19.45	19.94
	12H	18.91	19.46	19.41	19.95	20.51	18.49	19.05	19.00	19.54	20.10
12H	4H	17.76	18.52	18.24	18.99	19.46	17.39	18.15	17.87	18.63	19.10
	6H	18.49	19.12	19.00	19.63	20.12	18.12	18.75	18.63	19.26	19.75
	8H	18.81	19.36	19.31	19.85	20.41	18.43	18.99	18.93	19.48	20.04