

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: P931569

Luminaire Tested: DFN2DS-TR4F0-110DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931569
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-TR4F0-110DS830-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

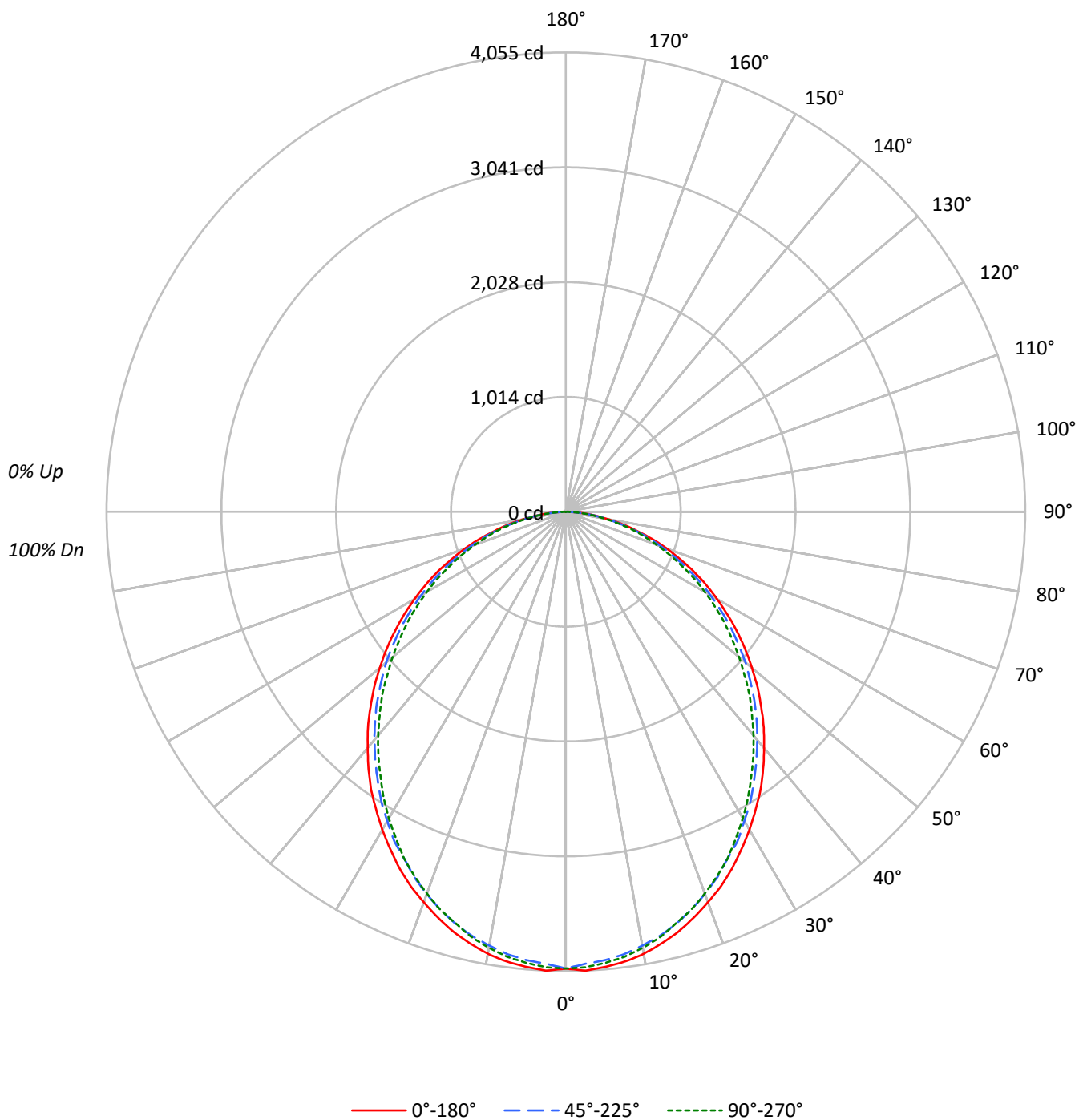
Lumens per Lamp: N/A
Luminaire Lumens: 10258.4 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 118.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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°	3203	3203	3203
5°	3215	3169	3188
10°	3196	3137	3153
15°	3157	3096	3093
20°	3101	3035	3032
25°	3045	2960	2960
30°	2973	2891	2867
35°	2907	2809	2767
40°	2823	2726	2674
45°	2740	2644	2579
50°	2650	2559	2468
55°	2556	2460	2368
60°	2451	2341	2255
65°	2340	2223	2121
70°	2198	2080	1982
75°	1999	1915	1869
80°	1775	1720	1631
85°	1447	1380	1237

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2740 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	15.33	16.94	15.69	17.25	17.57	14.88	16.49	15.25	16.81	17.12
	3H	17.08	18.53	17.45	18.86	19.22	16.59	18.04	16.96	18.37	18.73
	4H	17.72	19.09	18.12	19.44	19.82	17.23	18.60	17.63	18.95	19.32
	6H	18.19	19.46	18.60	19.83	20.22	17.69	18.96	18.10	19.32	19.72
	8H	18.34	19.55	18.76	19.94	20.33	17.83	19.04	18.26	19.43	19.83
	12H	18.43	19.59	18.86	19.97	20.40	17.91	19.07	18.34	19.46	19.88
4H	2H	15.89	17.26	16.29	17.60	17.98	15.53	16.90	15.93	17.25	17.63
	3H	17.86	19.01	18.27	19.41	19.81	17.46	18.60	17.87	19.00	19.40
	4H	18.64	19.68	19.07	20.09	20.52	18.22	19.25	18.65	19.66	20.10
	6H	19.24	20.14	19.69	20.58	21.04	18.80	19.71	19.26	20.15	20.61
	8H	19.43	20.27	19.89	20.71	21.18	18.99	19.83	19.45	20.28	20.74
	12H	19.56	20.32	20.04	20.79	21.26	19.10	19.86	19.59	20.34	20.81
8H	4H	18.91	19.76	19.37	20.20	20.67	18.54	19.38	19.00	19.83	20.29
	6H	19.63	20.33	20.12	20.82	21.29	19.25	19.95	19.74	20.44	20.91
	8H	19.89	20.52	20.40	21.02	21.51	19.49	20.13	20.00	20.63	21.12
	12H	20.09	20.64	20.59	21.13	21.70	19.67	20.23	20.18	20.72	21.28
12H	4H	18.94	19.70	19.42	20.17	20.64	18.57	19.33	19.05	19.81	20.28
	6H	19.67	20.30	20.18	20.81	21.30	19.30	19.94	19.81	20.44	20.93
	8H	19.99	20.54	20.49	21.03	21.60	19.61	20.17	20.12	20.66	21.22

END OF REPORT