

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: P931314

Luminaire Tested: DFN2DS-TR2F0-060DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931314
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR2F0-060DS940-RLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

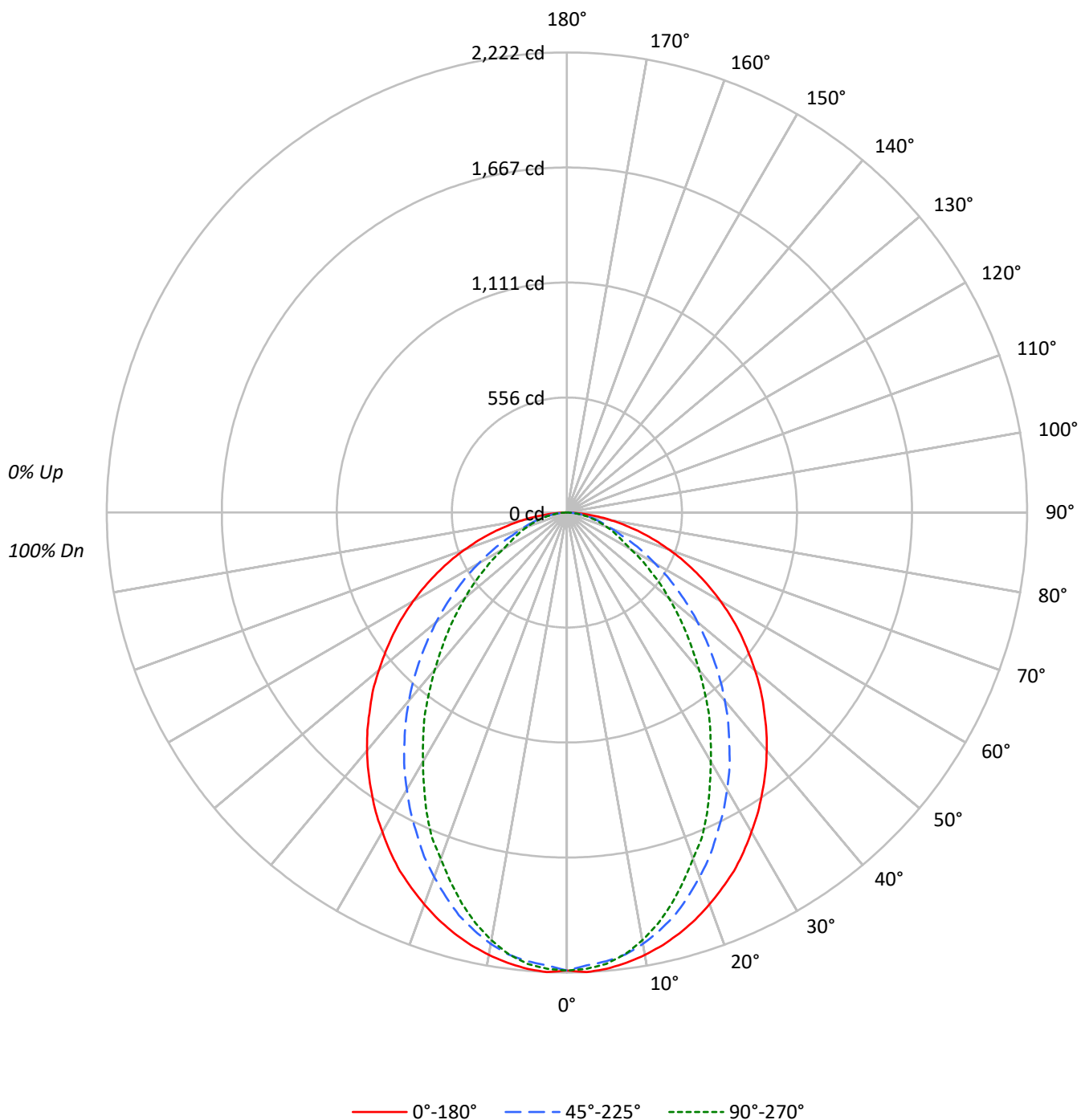
Lumens per Lamp: N/A
Luminaire Lumens: 4549.2 lumens
Efficiency: N/A
Efficacy: 73.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')
CIE Type: Direct

Input Watts (W): 61.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4934	4934	4934
5°	4953	4872	4899
10°	4914	4792	4751
15°	4858	4650	4516
20°	4780	4447	4224
25°	4700	4217	3941
30°	4589	3980	3578
35°	4481	3723	3259
40°	4371	3456	2891
45°	4243	3157	2557
50°	4112	2855	2230
55°	3978	2530	1915
60°	3822	2188	1590
65°	3645	1838	1447
70°	3433	1514	1331
75°	3174	1380	1243
80°	2801	1233	1132
85°	2201	972	972

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4243 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.3	4.6
10°-20°	569.1	12.5
20°-30°	799.0	17.6
30°-40°	871.0	19.1
40°-50°	800.5	17.6
50°-60°	628.7	13.8
60°-70°	409.2	9.0
70°-80°	210.6	4.6
80°-90°	53.8	1.2
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°	1575.4	34.6
0°-40°	2446.4	53.8
0°-60°	3875.6	85.2
0°-90°	4549.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4549.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2212	2212	2212	2212	2212	
5°	2212	2202	2176	2194	2188	210
15°	2104	2082	2014	1976	1956	593
25°	1910	1846	1714	1632	1601	878
35°	1646	1543	1367	1241	1197	1030
45°	1345	1211	1001	859	811	1039
55°	1023	867	650	531	492	914
65°	691	528	348	280	274	685
75°	368	228	160	146	144	390
85°	86	44	38	38	38	103
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2212.0	2212.0	2212.0	2212.0	2212.0
2.5°	2222.0	2212.0	2189.9	2210.0	2206.0
5°	2212.0	2202.0	2175.9	2194.0	2188.0
7.5°	2194.0	2182.0	2154.0	2161.9	2151.9
10°	2169.9	2155.9	2116.0	2109.8	2097.9
12.5°	2140.0	2121.9	2067.7	2055.9	2033.8
15°	2103.9	2081.7	2013.8	1975.8	1955.8
17.5°	2061.9	2029.7	1945.6	1901.7	1869.6
20°	2013.8	1973.6	1873.6	1823.7	1779.5
22.5°	1961.8	1915.7	1799.5	1731.6	1701.6
25°	1909.8	1845.6	1713.5	1631.6	1601.4
27.5°	1847.8	1779.5	1633.4	1539.3	1493.3
30°	1781.7	1705.4	1545.3	1443.3	1389.2
32.5°	1717.5	1625.4	1461.5	1341.2	1291.1
35°	1645.6	1543.4	1367.3	1241.1	1197.0
37.5°	1575.5	1465.2	1279.2	1141.0	1091.0
40°	1501.3	1381.4	1187.0	1044.9	992.9
42.5°	1425.3	1297.2	1095.0	946.8	896.9
45°	1345.2	1211.0	1001.0	858.6	810.6
47.5°	1269.2	1127.1	910.9	768.6	724.7
50°	1185.1	1043.0	822.8	684.5	642.7
52.5°	1102.9	952.7	738.7	606.6	568.6
55°	1022.9	866.8	650.5	530.6	492.5
57.5°	940.9	780.7	572.6	460.5	428.3
60°	856.8	696.7	490.4	388.5	356.4
62.5°	774.8	614.7	420.3	324.3	308.4
65°	690.7	528.4	348.3	280.4	274.2
67.5°	610.6	448.3	280.4	246.2	240.2
70°	526.5	370.4	232.1	212.2	204.1
72.5°	446.4	298.2	194.1	178.2	174.1
75°	368.3	228.1	160.1	146.1	144.2
77.5°	290.3	162.1	126.1	118.1	114.1
80°	218.1	116.1	96.0	88.1	88.1
82.5°	152.1	78.1	66.0	62.0	62.0
85°	86.0	44.0	38.0	38.0	38.0
87.5°	32.1	16.0	16.0	14.0	14.0
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	16.78	18.30	17.14	18.62	18.93	12.74	14.26	13.11	14.58	14.89
	3H	18.55	19.91	18.92	20.24	20.60	14.01	15.37	14.38	15.70	16.06
	4H	19.21	20.49	19.61	20.84	21.22	14.51	15.79	14.91	16.14	16.52
	6H	19.70	20.88	20.11	21.25	21.64	14.89	16.07	15.30	16.44	16.83
	8H	19.87	20.99	20.29	21.38	21.78	15.01	16.14	15.44	16.53	16.93
	12H	19.97	21.05	20.40	21.43	21.86	15.09	16.17	15.52	16.55	16.98
4H	2H	16.88	18.16	17.28	18.51	18.89	13.44	14.72	13.84	15.07	15.44
	3H	18.82	19.88	19.23	20.28	20.68	14.88	15.94	15.29	16.34	16.74
	4H	19.57	20.52	20.00	20.94	21.38	15.48	16.44	15.91	16.85	17.29
	6H	20.16	20.99	20.62	21.43	21.89	15.97	16.80	16.42	17.24	17.70
	8H	20.37	21.15	20.84	21.59	22.06	16.13	16.91	16.59	17.35	17.82
	12H	20.53	21.22	21.01	21.70	22.17	16.25	16.94	16.73	17.42	17.89
8H	4H	19.59	20.37	20.05	20.81	21.28	15.83	16.61	16.30	17.05	17.52
	6H	20.23	20.87	20.72	21.36	21.84	16.42	17.06	16.92	17.55	18.03
	8H	20.48	21.06	20.99	21.56	22.05	16.64	17.22	17.15	17.73	18.21
	12H	20.68	21.19	21.19	21.68	22.25	16.82	17.33	17.33	17.82	18.39
12H	4H	19.58	20.27	20.06	20.75	21.22	15.88	16.57	16.36	17.05	17.52
	6H	20.21	20.79	20.72	21.30	21.78	16.48	17.06	17.00	17.57	18.06
	8H	20.49	21.00	21.00	21.50	22.06	16.76	17.27	17.26	17.76	18.32