

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: P920711

Luminaire Tested: DFN2DIP-TR2F0-060D020US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920711
REPORT IS A COMBINATION OF REPORTS P901750 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D020US935-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

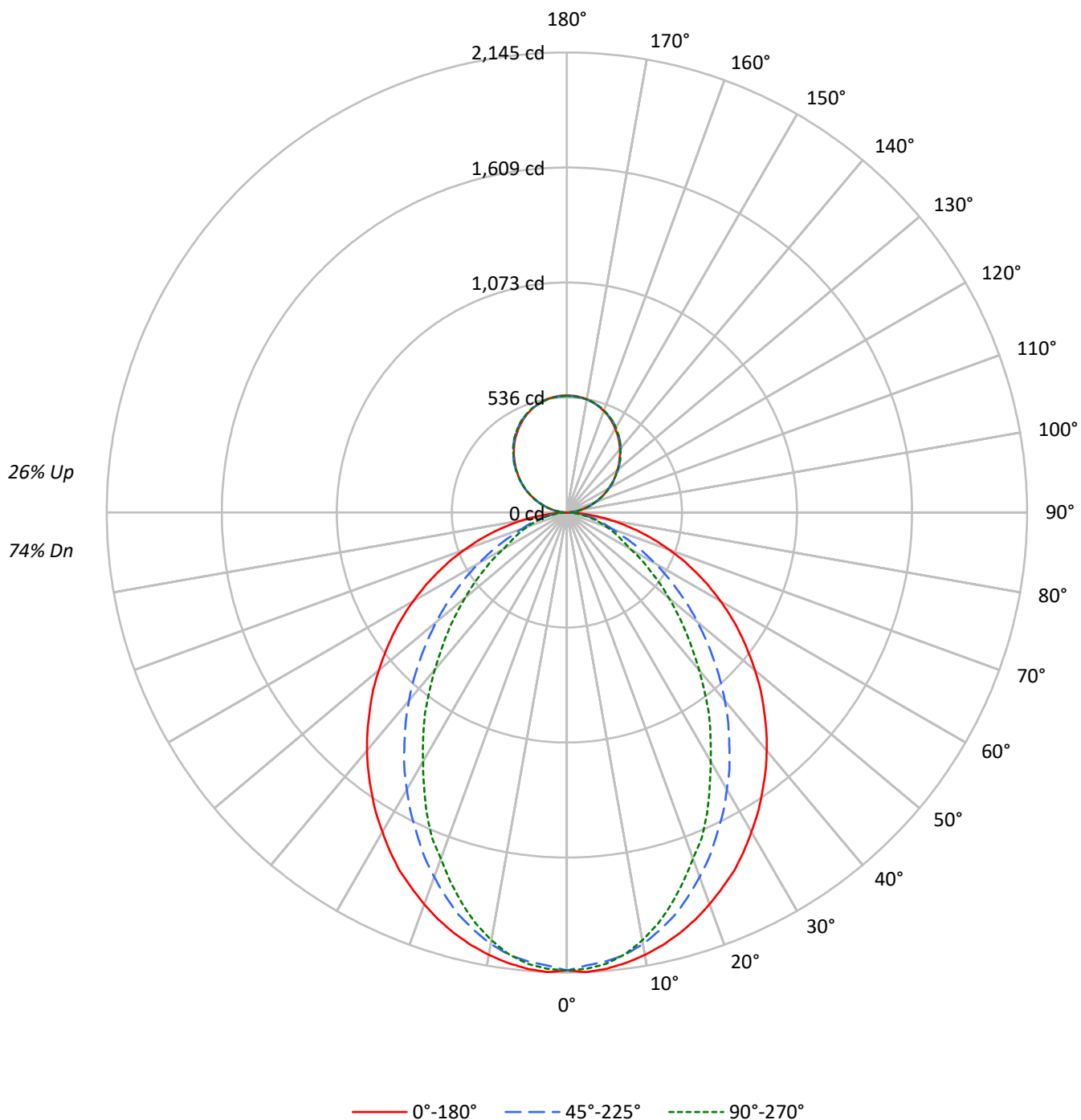
Lumens per Lamp: N/A
Luminaire Lumens: 5915.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 74.7
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	30	10
RCR																	
0	113	113	113	113	107	107	107	107	97	97	97	87	87	87	78	78	78
1	104	100	96	93	99	95	92	89	86	84	81	78	76	74	70	69	68
2	95	88	82	77	90	84	79	74	76	72	68	69	66	63	63	60	58
3	87	78	71	65	83	75	68	63	68	63	58	62	58	54	56	53	50
4	80	70	62	56	76	67	60	54	61	55	51	56	51	47	51	47	44
5	74	63	54	48	70	60	53	47	55	49	44	51	45	42	46	42	39
6	69	57	48	43	65	54	47	41	50	44	39	46	41	37	42	38	35
7	64	51	43	38	61	49	42	37	46	39	35	42	37	33	39	34	31
8	59	47	39	34	57	45	38	33	42	36	31	39	34	30	36	31	28
9	56	43	36	31	53	42	35	30	39	33	28	36	31	27	33	29	26
10	52	40	33	28	50	39	32	27	36	30	26	33	28	25	31	27	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4762	4762	4762
5°	4763	4676	4708
10°	4709	4574	4547
15°	4636	4412	4303
20°	4544	4194	4006
25°	4449	3952	3719
30°	4324	3704	3359
35°	4200	3438	3042
40°	4074	3164	2680
45°	3929	2863	2353
50°	3779	2559	2034
55°	3620	2236	1728
60°	3437	1899	1415
65°	3226	1559	1264
70°	2969	1241	1132
75°	2645	1073	1014
80°	2180	871	856
85°	1431	540	602

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3929 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	3.4
10°-20°	549.3	9.3
20°-30°	771.2	13.0
30°-40°	840.7	14.2
40°-50°	772.7	13.1
50°-60°	606.8	10.3
60°-70°	395.0	6.7
70°-80°	203.3	3.4
80°-90°	53.4	0.9
90°-100°	33.7	0.6
100°-110°	107.1	1.8
110°-120°	183.2	3.1
120°-130°	241.0	4.1
130°-140°	270.5	4.6
140°-150°	265.3	4.5
150°-160°	222.5	3.8
160°-170°	147.6	2.5
170°-180°	51.6	0.9
0°-30°	1520.7	25.7
0°-40°	2361.4	39.9
0°-60°	3740.9	63.2
0°-90°	4392.6	74.3
90°-120°	324.0	5.5
90°-150°	1100.8	18.6
90°-180°	1522.0	25.7
0°-180°	5915.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2135	2135	2135	2135	2135	
5°	2135	2126	2100	2118	2112	202
15°	2031	2009	1944	1907	1888	572
25°	1843	1782	1654	1575	1546	848
35°	1588	1490	1320	1198	1155	994
45°	1298	1169	966	829	782	1003
55°	987	837	628	512	475	882
65°	667	510	336	271	265	661
75°	356	220	154	141	139	376
85°	83	42	37	37	37	95
90°	0	6	16	15	16	6
95°	24	29	29	29	29	27
105°	99	100	101	102	102	104
115°	184	186	186	185	184	182
125°	267	272	270	269	268	239
135°	346	351	352	352	350	267
145°	420	423	426	426	425	262
155°	480	482	483	485	484	221
165°	522	522	522	525	523	147
175°	544	542	541	545	542	52
180°	545	545	545	545	545	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2135.1	2135.1	2135.1	2135.1	2135.1
2.5°	2144.7	2135.1	2113.7	2133.2	2129.3
5°	2135.1	2125.5	2100.2	2117.7	2111.9
7.5°	2117.7	2106.2	2079.1	2086.7	2077.1
10°	2094.5	2080.9	2042.5	2036.5	2025.0
12.5°	2065.6	2048.1	1995.9	1984.4	1963.1
15°	2030.7	2009.4	1943.8	1907.1	1887.8
17.5°	1990.2	1959.2	1878.0	1835.6	1804.7
20°	1943.8	1905.0	1808.5	1760.3	1717.7
22.5°	1893.6	1849.1	1737.0	1671.4	1642.4
25°	1843.4	1781.5	1654.0	1574.9	1545.7
27.5°	1783.6	1717.7	1576.7	1485.8	1441.4
30°	1719.8	1646.1	1491.6	1393.2	1340.9
32.5°	1657.9	1568.9	1410.7	1294.6	1246.2
35°	1588.4	1489.8	1319.8	1198.0	1155.4
37.5°	1520.7	1414.3	1234.8	1101.3	1053.1
40°	1449.1	1333.3	1145.7	1008.6	958.4
42.5°	1375.8	1252.1	1057.0	913.9	865.7
45°	1298.5	1168.9	966.2	828.8	782.5
47.5°	1225.1	1088.0	879.3	741.9	699.5
50°	1143.9	1006.8	794.2	660.7	620.3
52.5°	1064.5	919.6	713.0	585.5	548.8
55°	987.3	836.6	627.9	512.1	475.4
57.5°	908.2	753.5	552.7	444.4	413.5
60°	827.0	672.4	473.4	375.0	344.0
62.5°	747.9	593.3	405.7	313.1	297.6
65°	666.7	510.1	336.2	270.6	264.7
67.5°	589.4	432.7	270.6	237.6	231.9
70°	508.2	357.5	224.0	204.8	197.0
72.5°	430.9	287.8	187.4	172.0	168.1
75°	355.5	220.2	154.5	141.0	139.2
77.5°	280.3	156.4	121.7	114.0	110.1
80°	210.5	112.1	92.6	85.1	85.1
82.5°	146.8	75.4	63.7	59.8	59.8
85°	83.0	42.4	36.7	36.7	36.7
87.5°	31.0	15.4	15.4	13.5	13.5
90°	0.5	5.9	16.1	15.1	15.6
92.5°	10.2	13.8	14.3	14.8	14.8
95°	23.9	28.6	29.4	29.4	28.6
97.5°	39.9	44.2	46.0	46.0	46.0
100°	58.3	62.1	63.4	63.4	62.9
102.5°	77.7	80.4	82.2	82.7	82.2
105°	98.8	100.1	101.2	101.9	101.9
107.5°	119.9	121.8	121.8	122.2	119.9
110°	140.3	142.8	142.8	142.8	141.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	162.2	165.0	164.5	163.2	162.2
115°	183.9	186.5	185.7	185.2	183.9
117.5°	205.4	209.1	206.7	205.4	204.1
120°	227.0	230.7	227.0	227.0	225.6
122.5°	246.8	251.3	249.1	247.8	246.8
125°	267.4	271.6	270.3	268.8	268.3
127.5°	287.7	292.7	290.9	289.0	287.7
130°	306.5	312.5	311.6	310.6	308.8
132.5°	327.7	332.3	332.6	330.4	329.0
135°	345.9	351.0	352.0	351.5	350.2
137.5°	366.3	370.4	371.3	370.9	368.9
140°	384.2	388.3	390.6	390.6	388.8
142.5°	402.6	406.6	408.0	408.5	406.6
145°	420.0	423.3	425.9	426.4	424.6
147.5°	435.6	439.7	441.7	442.5	440.7
150°	451.7	454.4	456.2	457.7	456.2
152.5°	466.0	468.7	471.1	472.9	471.1
155°	480.3	481.6	483.0	485.3	483.9
157.5°	492.6	493.5	494.4	497.7	495.3
160°	503.6	504.5	505.1	507.8	505.8
162.5°	513.8	513.8	514.2	517.4	515.0
165°	522.5	521.9	521.9	525.2	523.0
167.5°	530.3	528.8	528.8	532.1	529.9
170°	536.2	534.9	534.4	537.7	534.9
172.5°	540.4	539.0	538.6	541.8	539.0
175°	543.6	542.3	541.3	544.6	541.8
177.5°	545.4	544.2	543.1	545.9	543.1
180°	544.6	544.6	544.6	544.6	544.6

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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	14.46	15.54	15.18	16.28	17.16	10.44	11.52	11.17	12.26	13.14
	3H	16.13	17.10	16.87	17.85	18.76	11.63	12.60	12.37	13.35	14.26
	4H	16.74	17.64	17.49	18.40	19.33	12.08	12.99	12.84	13.75	14.68
	6H	17.15	17.99	17.92	18.76	19.69	12.40	13.24	13.17	14.01	14.95
	8H	17.27	18.07	18.05	18.86	19.80	12.49	13.29	13.27	14.08	15.02
	12H	17.33	18.09	18.12	18.87	19.84	12.54	13.30	13.32	14.08	15.04
4H	2H	14.50	15.41	15.26	16.17	17.10	11.05	11.96	11.81	12.72	13.65
	3H	16.33	17.08	17.10	17.88	18.82	12.41	13.16	13.18	13.96	14.90
	4H	17.01	17.70	17.80	18.49	19.46	12.95	13.64	13.74	14.43	15.40
	6H	17.52	18.11	18.32	18.93	19.90	13.37	13.96	14.17	14.78	15.75
	8H	17.69	18.24	18.49	19.05	20.04	13.49	14.04	14.30	14.86	15.85
	12H	17.78	18.27	18.61	19.11	20.10	13.56	14.05	14.39	14.89	15.88
8H	4H	16.99	17.55	17.80	18.36	19.35	13.24	13.79	14.04	14.60	15.59
	6H	17.54	18.00	18.38	18.86	19.85	13.74	14.20	14.58	15.05	16.04
	8H	17.75	18.15	18.59	19.01	20.01	13.92	14.33	14.77	15.18	16.19
	12H	17.88	18.24	18.73	19.08	20.14	14.04	14.39	14.89	15.24	16.30
12H	4H	16.96	17.45	17.78	18.29	19.28	13.25	13.74	14.08	14.58	15.57
	6H	17.52	17.92	18.37	18.78	19.78	13.78	14.19	14.63	15.05	16.05
	8H	17.73	18.09	18.58	18.93	20.00	13.99	14.35	14.84	15.19	16.26